

Spring 5-2017

# The Influence of Principal Longevity and Continuity on Student Achievement

Gemar Mills

*Seton Hall University*, mills.gemar@gmail.com

Follow this and additional works at: <https://scholarship.shu.edu/dissertations>



Part of the [Educational Leadership Commons](#), and the [Elementary and Middle and Secondary Education Administration Commons](#)

---

## Recommended Citation

Mills, Gemar, "The Influence of Principal Longevity and Continuity on Student Achievement" (2017). *Seton Hall University Dissertations and Theses (ETDs)*. 2250.  
<https://scholarship.shu.edu/dissertations/2250>

The Influence of Principal Longevity and Continuity on Student Achievement

by

Gemar Mills

Submitted in partial fulfillment of the requirements for the degree

Doctor of Education

Seton Hall University

May 2017

© 2017 Gemar Mills

**SETON HALL UNIVERSITY**  
**COLLEGE OF EDUCATION AND HUMAN SERVICES**  
**OFFICE OF GRADUATE STUDIES**

**APPROVAL FOR SUCCESSFUL DEFENSE**

**Gemar Mills**, has successfully defended and made the required modifications to the text of the doctoral dissertation for the **Ed.D.** during this **Spring Semester 2017**.

**DISSERTATION COMMITTEE**  
(please sign and date beside your name)

Mentor:

Dr. Daniel Gutmore

*Daniel Gutmore* 3/16/17

Committee Member:

Dr. Christopher Tienken

*Christopher Tienken* 3/6/17

Committee Member:

Dr. Margaret Crosbie-Burnett

*Sent email of approval*

The mentor and any other committee members who wish to review revisions will sign and date this document only when revisions have been completed. Please return this form to the Office of Graduate Studies, where it will be placed in the candidate's file and submit a copy with your final dissertation to be bound as page number two.

## Abstract

In the state of New Jersey, academic success at the high school level is defined by student achievement on the New Jersey High School Proficiency Assessment (NJ HSPA), which students take in the 11<sup>th</sup> grade. New Jersey high school principals are accountable for ensuring that students who attend their schools are proficient in mathematics and language arts before they start their 12<sup>th</sup> grade year. The No Child Left Behind Act (2001) emphasizes principal accountability, and New Jersey has likewise increased scrutiny on principals' contributions to student performance on the NJ HSPA. Accordingly, this study examines whether these principals' tenure, longevity, and continuity at the school level affected student achievement on the 2012 NJ HSPA. Specifically, it utilizes a non-experimental exploratory multiple-regression design, and reviews data from the New Jersey School Report Card to determine which school districts in the A-CD District Factor Groups made adequate yearly progress by achieving proficiency on the 2011-2012 NJ HSPA.

## Table of Contents

Copyright.....	ii
Approval.....	iii
Abstract.....	iv
Table of Contents.....	v
 Chapter One: Introduction .....	 1
Background of the Study .....	2
Statement of the Problem .....	5
Purpose of the Study .....	7
Significance of the Study.....	7
Research Questions.....	8
Conceptual Framework.....	9
Design and Procedures .....	12
Assumptions .....	14
Limitations of the Study .....	14
Delimitations of the Study.....	14
Definition of Terms .....	15
Summary and Dissertation Structure.....	18
Chapter Two: Review of Related Literature.....	19
The Historical Perspective of the Principalship .....	19
Purpose of the Review .....	19
Literature Search Procedures.....	20
Inclusion and Exclusion Criteria .....	21
The Evolution of the Role of the Principalship .....	21
The Principalship in Contemporary Times of Change .....	25
Principals' Roles in Student Achievement .....	28
Principal Turnover and Student Achievement.....	32
Principal Longevity and Student Achievement.....	35
The Era of Accountability under Adequate Yearly Progress .....	39
Federal Requirements of NCLB.....	40
Chapter Summary .....	41
Chapter Three: Methodology.....	43
Research Questions.....	45
Hypothesis .....	45

Research Design .....	45	
Sample .....	48	
Data Collection .....	49	
Data Analysis.....	50	
Summary.....	51	
Chapter Four: Results and Data Analysis.....	52	
Data Analysis Procedures.....	54	
Model of Best Fit: Language Arts.....	58	
Model of Best Fit: Mathematics.....	67	
Research Question 1.....	74	
Research Question 2.....	76	
Summary.....	77	
Chapter Five: Conclusions, Recommendations for Practice, and Recommendations for Policy		78
Introduction .....	78	
District, State, and Total Experience in Education.....	79	
Conclusions .....	79	
Recommendations for Practice.....	83	
Recommendations for Policy.....	84	
Summary of Purpose .....	85	
Summary of Procedures.....	87	
Recommendations for Future Research.....	89	
Conclusion.....	91	
References .....	94	

## List of Tables

Table 1: <i>Number of Schools Used in Study (DFG A-CD)</i> .....	46
Table 2: <i>Collinearity: Pearson Correlation</i> .....	54
Table 3: <i>Language Arts Proficiency Coefficients and Multicollinearity, Tolerance, and Variance Inflation Factor (VIF) Coefficients<sup>a</sup></i> .....	56
Table 4: <i>Mathematics Proficiency Coefficients and Multicollinearity, Tolerance, and Variance Inflation Factor (VIF) Coefficients<sup>a</sup></i> .....	57
Table 5: <i>Language Arts Proficiency Collinearity: Pearson Correlation</i> .....	58
Table 6: <i>Language Arts Proficiency Coefficients and Multicollinearity, Tolerance, and Variance Inflation Factor (VIF) Coefficients<sup>a</sup></i> .....	59
Table 7: <i>Language Arts Proficiency Model Summary</i> .....	60
Table 8: <i>Language Arts Proficiency ANOVA</i> .....	61
Table 9: <i>Language Arts Proficiency: Predictive Variables Used and Coefficients (n=58) of Predictive Variables</i> .....	62
Table 10: <i>Language Arts Descriptive Statistics</i> .....	67
Table 11: <i>Mathematics Proficiency Collinearity: Pearson Correlation</i> .....	67
Table 12: <i>Revised Mathematics Proficiency Coefficients and Multicollinearity, Tolerance, and Variance Inflation Factor (VIF) Coefficients<sup>a</sup></i> .....	68
Table 13: <i>Revised Mathematics Proficiency Model Summary</i> .....	69
Table 14: <i>Revised Mathematics Proficiency ANOVA</i> .....	70
Table 15: <i>Revised Mathematics Proficiency and Predictive Variable Coefficients (n=52)</i> .....	71
Table 16: <i>Mathematics Proficiency Descriptive Statistics</i> .....	76

## List of Figures

Figure 1. Histogram of Total P Lang. ....	62
Figure 2. P-plot distribution of Observed Cum Prob Total P Lang. ....	63
Figure 3. Partial regression plot for Experience as Principal in District. ....	64
Figure 4. Partial regression plot for Total Experience. ....	65
Figure 5. P-plot distribution of Observed Cum Prob Total P Math. ....	72
Figure 6. Partial regression plot Experience as Principal in District. ....	73
Figure 7. Partial regression plot for Experience Total. ....	75



## **Chapter One: Introduction**

Many educators believe that a good principal is the key to a successful school. The No Child Left Behind Act (NCLB) encouraged the replacement of principals in persistently low-performing schools, and the Obama administration made this a requirement for schools undergoing federally-funded turnarounds (Branch, Hanushek, & Rivkin, 2013). Principal leadership and student achievement have become synonymous: though principals are not the only stakeholders who play a role in student achievement, legislation such as NCLB and the “Teach NJ Act” places a higher level of responsibility on them to ensure that graduating students are proficient. Student proficiency, as defined by NCLB, emphasizes a student’s progress in reading and math. It is measured annually in grades 3 through 8 and at least once during high school, via standardized tests (NCLB Act, 2002).

New Jersey’s Governor and Commissioner of Education chose to offer this secondary assessment during the 11<sup>th</sup> grade, in a test called the New Jersey High School Proficiency Assessment (NJ HSPA). The New Jersey Legislature recently raised the accountability level of New Jersey principals by passing into law the “Teach NJ Act” in 2012, which required implementation of a new educator evaluation system beginning in 2013–2014 (NJDOE, 2013). Based on this legislation, “Achieve NJ” was created. Achieve NJ requires 50% of all NJ principals to ensure that students show growth on standardized assessments, or accept a loss in salary, tenure, or job. This study examines the relationship between a principal’s tenure (length of time as the principal of that school), longevity (total years of experience as a principal), and continuity (total number of years in education) on student achievement on the NJ HSPA.

Many scholars argue that the principal has an enormous impact on teaching and learning in schools (NJDOE, 2013). In “School Leadership That Works: From Research to Results,” Marzano, Waters, and McNulty (2005) reported that there is a statistically significant relationship between the principal and average student achievement in his or her school, with a correlation of .25 (Plotts, 2012). Though a correlation between principals’ leadership behaviors and student achievement exists, it is a weak representation. In fact, the authors cautioned against “reducing the findings of a meta-analysis, particularly one that claims to be as comprehensive as ours, to a single correlation is at best an oversimplification of the findings” (Marzano et al., p. 4). By performing a deeper analysis of a specified standardized test, the present study seeks to identify a much stronger correlation between these two variables, particularly in terms of tenure, continuity, and longevity.

### **Background of the Study**

The principal’s role in the American educational system keeps evolving. It was once enough for principals to be good building managers, but today they are also held responsible for improving student achievement. Today’s educational climate is controlled by complex measures of accountability and standards by which principals’ job performance is judged (Plotts, 2012). In an era of accountability, so much is expected of them that success in all their areas of responsibility is out of reach for an increasing number of principals (SAM Project, 2013). With so much responsibility and accountability, demographic variables like tenure, longevity, and continuity may play a huge part in relation to student achievement. Examining this possible relationship would be of great value to evaluating the overall efficacy of the principal in student achievement.

Results from empirical studies suggest that the average tenure for principals in low-income school districts is 3.4–5.2 years (Beteille, Kalogrides, & Loeb, 2012). According to one study, “[p]rincipals are now more than ever focused on student achievement while still retaining their traditional administrative and building manager duties. Because of this, principals typically work 10 hour days and many believe the job is just not ‘doable’ as it is configured now” (Usdan, McCloud, & Podmostko, 2000). Some studies have shown that “stable leadership at a school has a positive impact on a school’s performance. However, America’s lowest performing schools serving our most disadvantaged students have the least stable leadership” (Loeb, Kalogrides & Horng, 2010).

In 2010 Louis, Leithwood, Wahlstorm, and Anderson published the *Learning from Leadership Project: Investigating the Links to Improve Student Learning*, which serves as the framework for my study. In this study, the Center for Applied Research and Educational Improvement (CAREI) at the University of Minnesota research team used a multiple-method research approach to examine the contributions of leadership to the implementation of virtually all initiatives aimed to improve student learning and the quality of schools (Louis, Leithwood, Wahlstorm, & Anderson, 2010). The research findings of this six-year study were finalized in 2010. CAREI collected data from 9 states, involving 43 school districts and 180 schools of various levels. Survey data was collected in the first and fourth years of the study; interviews in districts and schools were conducted in three cycles over the five years of the project. These efforts yielded, by the end of the project, survey data from a total of 8,391 teachers and 471 school administrators. Lastly, the authors obtained student achievement data for literacy and

mathematics in elementary and secondary grades, using scores on the states' tests for measuring Adequate Yearly Progress as mandated by NCLB (Louis et al., 2010). Six major findings emerged from their quantitative analysis of principal turnover:

*“Finding 1:* On average, schools experience fairly rapid principal turnover: about one new principal every three to four years.

*Finding 2:* Rapid principal turnover has moderately negative effects on school culture.

*Finding 3:* Rapid principal turnover seems not to have much effect on classroom content or instruction.

*Finding 4:* Rapid principal turnover explains a modest but significant amount of variation in student achievement across schools.

*Finding 5:* Coordinated forms of leadership distribution have the potential to mitigate at least some of the negative consequences of rapid principal turnover.

*Finding 6:* Principals newly assigned to schools who initially work within the existing culture of their schools, rather than attempting to quickly, substantially change it, are more likely to avoid negative turnover effects.”

These results suggest that principal turnover has significant negative effects on student achievement. Although there are limited studies on this topic, Louis et al. (2012) did identify a positive relationship between student achievement and principal longevity, continuity, and tenure. If principals are to create the conditions that lead to improved student learning, districts must consider the research on school leadership practices that are correlated with student achievement (Potts, 2012).

### **Statement of the Problem**

Prior to the introduction of PARCC, in the state of New Jersey academic success at the High School level is defined by student achievement on the New Jersey High School Proficiency Assessment (NJ HSPA) for grade 11. I chose to focus on the 2011–2012 NJ HSPA data in light of Principle 6.1 of the No Child Left Behind Act: “Accountability system is based primarily on academic assessments” (NJDOE, 2012, p. 2). The New Jersey HSPA is administered in grade 11 and is aligned to NCLB requirements. According to Tienken (2008), “School district leaders and administrators place great emphasis on state standardized test results to make what is believed to be ‘informed’ decisions regarding future student placement and overall academic standings” (Tienken, 2008). However, some evidence indicates that the NJ HSPA and similar tests “have technical limitations and flaws that call into question the use of results from those tests as high-stakes evaluative and decision-making tools” (Tienken, 2008, p. 4; Potts, 2012). Nevertheless, the implementation of NCLB requires that 100% of high school students be proficient by the year 2014, as evidenced by scoring “proficient” or “advanced proficient” on the high-stakes assessments each state administers, such as the NJ HSPA.

The Every Student Succeeds Act (ESSA) was signed into law on December 10, 2015, eliminating the 100% proficiency and adequate yearly progress (AYP) requirements introduced by NCLB (U.S. Department of Education, 2015). However, New Jersey continues to “employ student growth percentiles (SGP) to describe school wide student achievement on Partnership for Assessment of Readiness for College and Careers (PARCC) test,” which is a graduation requirement (NJDOE, 2016). PARCC

“replaces previous state standardized tests” and claims to “provide a valid and reliable evaluation of each student’s progress toward state standard mastery” (PARCC, 2016). Moreover, in 2009 the federal government implemented the School Improvement Grant (SIG), which focuses on schools which demonstrate the greatest need based on state standardized assessments. As stated in the SIG required actions document, in order to receive federal funding the school district must replace the principal (US Department of Education, 2010). Although there is evidence indicating that student achievement is positively impacted by the “promotion, support and development of principals as instructional leaders” (Cuidiero, 2005, p. 16), the most current research suggests that little is known about how principal longevity impacts student achievement. The New Jersey Department of Education has replicated SIG and continues to categorize, measure, and manage schools through Regional Achievement Centers (RACs), as outlined in NJ’s N.J.A.C. 6A:33-2.1 (NJDOE, 2016). The accountability requirements of the No Child Left Behind Act (NCLB 2001) were fully implemented in 2014 and the goal for public education in America was not met. The present study’s findings may or may not provide a link to improving student achievement in any District Factor Group (DFG) school district, especially those located within the A-CD DFG in New Jersey.

According to The Wallace Foundation, “principals are essential to improving schools and student achievement” (SAM Project, 2013). Initially the role of the principal focused heavily on managerial responsibilities; principals typically spent 75% of their time on management (SAM Project, 2013). However, this has greatly changed in that the principal is now a school leader who leads instruction, develops teachers and other staff members, and builds a culture that focuses on teaching and learning. The mastering of

these essential tasks leads to higher student achievement. By meeting the federal mandates of NCLB and ESSA, public school principals must ultimately take on more significant responsibilities and duties. By fulfilling their duties in a responsive manner, principals can positively impact student achievement (Marzano, McNulty, & Waters, 2005). The existing research explains that rapid principal turnover has a modest but significant amount of variation on student achievement in low performing schools (Louis et al., 2010). The students of any school district in New Jersey, regardless of District Factor Grouping and socio-economic status, will benefit greatly from the educational achievement opportunities that a principal with tenure, longevity, and continuity can bring to a district.

### **Purpose of the Study**

My purpose for this study is to explain the strength of the relationship between the length of principal longevity, continuity, and tenure in New Jersey school districts on student achievement, as measured by the percentage of students scoring “proficient” in 2012 on the Grade 11 NJ HSPA. By examining principals in lower socio-economic district factor groupings and their ability to achieve adequate yearly progress, this study will enable future educational leaders to better understand their roles as they work to improve student academic achievement.

### **Significance of the Study**

This study is significant because it extends the limited literature on principal tenure, continuity, and longevity relative to student achievement, as well as expands upon studies such as CAREI. A high level of scrutiny is placed on New Jersey principals because of the accountability measures that derive from NCLB and the Teach NJ Act of

2012. New Jersey's achievement scores were expected to rise each year since the inception of the No Child Left Behind legislation, culminating in a 100% proficiency level by the year 2014 (Potts, 2012). By clarifying the relationship between student achievement and principal tenure, continuity, and longevity, this research can provide districts with useful data that can help them shape future policy. It may also provide information that can be used to help school districts maintain quality principals, and to enable New Jersey principals to maintain and enhance student achievement on future HSPA tests. Finally, the findings of my research should enable the NJ Department of Education to review their school turnaround policy and make considerable changes to their school leadership mandates.

### **Research Questions**

The following questions guided this research:

- 1) What is the relationship between New Jersey principals' district tenure (i.e., length of time in a district school as a principal) and student academic achievement, as evidenced by the 2011-2012 11<sup>th</sup> Grade NJ HSPA scores?
- 2) What is the relationship between New Jersey principals' longevity (i.e., years of experience as a principal) and student academic achievement, as evidenced by the 2011 – 2012 11<sup>th</sup> grade NJ HSPA scores?
- 3) What is the relationship between New Jersey principals' educational continuity (i.e., total number of years in education) and student academic achievement, as evidenced by the 2011-2012 11<sup>th</sup> Grade NJ HSPA scores?



### Conceptual Framework

Principal turnover has an inverse relationship to longevity: as principal turnover grows rapidly, tenure, longevity, and continuity all decrease. To earn tenure as a new principal in New Jersey one must “be rated either effective or highly effective in two annual summative evaluations within the first three years of employment, with the first effective rating on or after completion of the second year” (NJDOE, 2016). The Center for Applied Research and Educational Improvement (CAREI) conducted a multiple-method research study (combining data from separate studies, qualitative studies, and quantitative studies into a single sample of research) to analyze the contributions of leadership to the implementation of virtually all initiatives aimed to improve student learning and the quality of schools (Louis et al., 2010). The goal of the study was to identify the nature of successful educational leadership, and to understand better how such leadership can improve educational practices and student learning. CAREI collected data from 9 states, involving 43 school districts and 180 schools of various levels. Survey data was collected in the first and fourth years of the study; interviews in districts and schools were conducted in three cycles over the five years of the project. These efforts yielded, by the end of the project, survey data from a total of 8,391 teachers and 471 school administrators. Lastly, the authors obtained student achievement data for literacy and mathematics in elementary and secondary grades, using scores on the states’ tests for measuring Adequate Yearly Progress as mandated by NCLB (Louis et al., 2010). From their quantitative analysis of principal turnover six key findings emerged:

*Finding 1:* On average, schools experience fairly rapid principal turnover: about one new principal every three to four years.

After surveying 80 schools and calculating “the means, standard deviations, and scale reliable (Cronbach’s alpha) of variables for this sub-study,” the authors found an “average length of tenure of 3.6 years per principal. The standard deviation for this measure is a relatively large (1.34).”

*Finding 2:* Rapid principal turnover has moderately negative effects on school culture.

“When calculating Pearson’s correlation coefficients to assess the relationships between mediating variables, the independent variable (the number of principals in the school in the past 10 years), and the dependent variable (student achievement) shows that the relationships among principal turnover and measures of school and classroom conditions are negative. When testing the mediated effects of principal turnover on student achievement it explains that the total effects of principal turnover explain 24% of the variation in student achievement. Principal turnover has significant and moderately negative effects on school culture (-.37), although school culture has moderately strong, significant, effects on student achievement (.68).”

*Finding 3:* Rapid principal turnover seems not to have much effect on classroom content or instruction.

“The effects of turnover on curriculum and instruction are insignificant, and the measure of classroom curriculum and instruction is negatively, but very weakly, related to student achievement. It is interesting to see that the partial correlations between these mediating variables and student achievement are strong and positive, but the addition of principal turnover to the model reduces the effect of curriculum and instruction on student achievement to very low level (-.06).”

*Finding 4:* Rapid principal turnover explains a modest but significant amount of variation in student achievement across schools.

“Results suggest that principal turnover has significant negative effects on student achievement. These effects are mediated more by school-level than classroom level conditions. The weaker impact of principal turnover on classroom variables might suggest that teacher classroom practice is in some way buffered from direct effects of changes in principal leadership.”

*Finding 5:* Coordinated forms of leadership distribution have the potential to mitigate at least some of the negative consequences of rapid principal turnover.

“Taking a deliberate approach to the distribution of leadership, driven by a principal and district leaders committed to collaborative work and plan fully aligned leadership distribution. Building a strong professional community, also producing plan fully aligned patterns of leadership distribution capable of surviving changes in leadership. Leadership should be distributed among a number of teachers. Despite frequent changes in principals, the supportive cultures developed in these schools continued to thrive” (pp. 165-173).

*Finding 6:* Principals newly assigned to schools who initially work within the existing culture of their schools, rather than attempting to quickly, substantially change it, are more likely to avoid negative turnover effects.

These results suggest that principal longevity matters. Assuming that a principal is working effectively, districts should aim to keep most principals in their schools for a minimum of four years, and preferably five to seven years. Effective principals focus their efforts on understanding the school-improvement work in which staff members have

previously engaged. A principal's tenure is positively correlated with student achievement: the absence of consistent leadership impacts teacher effectiveness and leads to negative outcomes for students. The theoretical framework of this study references CAREI's six key findings from the *Learning from Leadership Project: Investigating the Links to Improve Student Learning* (2010).

### **Design and Procedures**

This research study uses a non-experimental, exploratory, multiple-regression design. "Non-experimental research is frequently an important and appropriate mode of research in education", due largely in part to the inability to perform randomized experiments and quasi-experiments (Johnson, 2001, p. 3). The purpose of this descriptive, non-experimental, cross-sectional explanatory study is to examine whether the length of a principal's tenure, longevity, and continuity is related to student academic achievement on the Grade 11 2011-2012 NJ HSPA. The correlational study collected data from only one point in time. This study involves the review of data from the New Jersey School Report Card and Data Universe to determine which school districts in the District Factor Grouping of A-CD made adequate yearly progress by achieving proficiency on the 2011-2012 NJ HSPA. The researcher will use a multiple-regression process to explore the relationship of predictive variables as they relate to the dependent variable in this quantitative study: student academic achievement, as defined by scoring "proficient" or better on the 2011-2012 NJ HSPA for Grade 11 (Potts, 2012).

Information on three of the predictive variables came directly from the New Jersey School Report Card and Data Universe. The most important of these predictive

variables was the principal's time spent in education, no matter which positions in education were held. The predictive variables used in this study include the following:

1. Experience in district length of tenure as a principal.
2. Educational experience in New Jersey.
3. The total number of years of experience in education.

After examining the extant research, the researcher chose to include descriptive data in the study because of the relationship that each variable had to student academic achievement. The researcher also had a strong interest in seeing the correlation of these predictive variables with student achievement.

The other predictive variables that were used in the study relate to district demographics. These predictive variables were chosen for inclusion in the study to show a district's characteristics, and enable the researcher to determine the best resources and programs to advance student achievement. The variables taken from the New Jersey School Report Card 2011-2012 Enrollment Summary include the following:

1. Total student population for each school district.
2. The district percentage of students who qualify for free lunch.
3. The district percentage of students who qualify for reduced lunch.
4. The district percentage of students who are Limited English Proficient (LEP).

Although many scholars group variables #3 and #4 into a single variable, in this case the researcher chose to follow the 2011-2012 New Jersey School Report Card Enrollment Summary and separate free and reduced lunch into two separate predictive variables.

The New Jersey Department of Education School Report Card website (<http://www.state.nj.us/education/data>) and the website Data Universe

(<http://php.app.com/edstaff/details2.php?recordID+125590>) were used to compile the demographic data for this study. The New Jersey Department of Education School Report Card for 2011-2012 website describes the percentage of “Proficiency” of eleventh-grade students, along with the predictive variables (Potts, 2012).

### **Assumptions**

This study assumes that if a principal has a longstanding tenure, longevity, and continuity at a school, he or she will be more apt to have a high level of student achievement, as defined by scoring proficient or better on the 2011-2012 New Jersey High School Proficiency Assessment.

### **Limitations of the Study**

1. Caution must be exercised when making generalizations based on the findings of this study, as delimitations and limitations both apply to this quantitative analysis. Some principals retired and/or left their positions mid-year, prior to students taking the 2011-2012 NJ HSPA for grade 11.
2. These results can be generalized to the population which the study samples.
3. The study only focused on one year’s data.
4. The study only focused on the NJ HSPA.

### **Delimitations of the Study**

Delimitations for the study were as follows:

1. Data was analyzed and collected for high school only.
2. The study only focused on districts within the DFG range of A-CD.

(Potts, 2011).

### **Definition of Terms**

In this study the researcher has specifically defined some of the following terms; others follow previous definitions in the literature.

***Academic Achievement (student)*** - the percentage of students in grade 11 who scored “Proficient” or better on the 2011-2012 NJ HSPA.

***Adequate Yearly Progress (AYP)*** - the target set by each state, based on meeting the No Child Left Behind Act’s overall goal that all students be proficient in reading and math curriculum standards by 2014. When schools measure AYP, the most important factors are scores on high-stakes reading and mathematics assessments administered to students annually. To make AYP, a school must meet achievement guidelines for its student population as a whole, as well as for each demographic subgroup. These groups include racial and ethnic minorities, students with disabilities, and students who are eligible for services as English-language learners (ELL).

***Continuity*** - an uninterrupted succession while working in an educational capacity.

***Failing Schools*** – schools not making adequate yearly progress (AYP).

***Interstate School Leaders Licensure Consortium (ISLLC)*** - standards that have been developed by the Council of Chief State School Officers, in collaboration with the National Policy Board on Educational Administration (NPBEA), to help strengthen preparation programs in school leadership (Van Meter & Murphy, 1997).

***Longevity*** - the length of a principal’s professional lifespan in a school district, totaling 10 or more years.

***Mid-continent Research for Education and Learning (McREL)*** - a nationally recognized nonprofit organization created to help educators bridge the gap between research and practice.

***New Jersey High School Proficiency Assessment (NJ HSPA)*** - the annual testing process utilized by the State of New Jersey to test student competence in reading and math.

***No Child Left Behind (NCLB)*** - legislation that was signed into law in 2001 by President George W. Bush. Its main objective is “to close the achievement gap with increased accountability, flexibility, and choices so that no child is left behind” (Public Law 107-110, 107<sup>th</sup> Congress, 2002). NCLB articulates a precise formula for ensuring “that all groups of students, including low-income students, students from major racial and ethnic groups, students with disabilities, and students with limited English proficiency reach proficiency within 12 years” (U.S. Department of Education, 2002, p. 5).

***PARCC*** – an end-of-year assessment aligned to Common Core standards that tests students of all achievement levels on what they have learned in English/language arts and mathematics in grades 3-8 and high school.

***Percentage of Students Who Qualify for Free and Reduced Lunch*** - the percentage of the total student population who, based on family income levels, meet federal guidelines for reduced prices for school lunches/meals.

***Principal*** - the chief administrator of a school and the person responsible for all things in and around the school.

***Principal Leadership*** - the ability of a principal to lead a school in his or her capacity as Chief Executive Officer (CEO).



***Proficient*** – the student academic achievement mark that represents adequate knowledge in a given subject area.

***School Boards*** – the corporate bodies that possess the legal authority to organize and operate a school district for the state, with statutory responsibilities for policy, budget, and programs (Blumberg, 1985).

***School District*** - the boundaries of a school facility that are governed by a Board of Trustees, including schools in single areas which serve the population of the community.

***TEACHNJ Act*** (“TEACHNJ”) – the bipartisan tenure reform approved unanimously by the legislature and signed into law by Governor Chris Christie on August 6, 2012. The goal of the law is to “raise student achievement by improving instruction through the adoption of evaluations that provide specific feedback to educators, inform the provision of aligned professional development, and inform personnel decisions” (NJDOE, 2016).

***Tenure*** – the characteristics influencing a principal to remain in a New Jersey School District for a multiple-year period.

***Total Student Population*** - the total number of students in a school district.

***Total Years’ Experience in District*** - the total number of years a person has served in the same school district in the capacity of principal.

***Total Years’ Experience in New Jersey*** - The total number of years a person has worked in education in the State of New Jersey.

***Total Years’ Experience*** - the total number of years a person has worked in education, regardless of the state.

***Turnover*** - the amount of movement that occurs in and out of an organization due to resignations, discharges, retirements, and deaths (Shields, 2002).

*Uninterrupted Tenure* - the number of consecutive years that a principal stays in the same position within a school district.

### **Summary and Dissertation Structure**

Since the inception of NCLB, principals have faced increase pressure. Today's principals face higher levels of accountability to achieve adequate yearly progress and student proficiency on high-stakes assessments like the NJ HSPA. This chapter presented the background of the study, specified the research problem, described the study's significance, and presented a brief overview of the methodology that will be used to examine principal tenure, longevity, and continuity relative to student achievement. Chapter 1 concluded by identifying the study's limitations and delimitations, and by defining several relevant terms.

Chapter 2 will present a review of the research findings from previous literature. This literature review will examine the history, evolution, and ever-changing roles of the principalship in American education. It will also examine the impacts of the No Child Left Behind Act, increased accountability, and Superintendent-Principal relationships. Chapter 3 will provide a description of the research design, as well as the methods for data collection and analysis used in the present study. Chapter 4 will present the results and findings of the investigation, as well as a detailed statistical analysis of the data and an interpretation of the descriptive findings tied to the research questions. Finally, Chapter 5 will provide a summary of the research, identify its limitations, connect its findings to previous research, and suggest several implications for further research and practice (Potts, 2011).

## **Chapter Two: Review of Related Literature**

### **The Historical Perspective of the Principalship**

The history and evolution of the principalship in American education, and how demographic facets like longevity and continuity may impact student achievement, are fascinating topics to study. This review takes a historical perspective on the role of school principals, and examines its evolution over the past 400 years as well as its rapidly changing contemporary roles. With greater accountability since NCLB and increased demand for Adequate Yearly Progress (AYP), the principal's job has become much more difficult. This chapter will show how the principal's role has changed most dramatically since the inception of the 2001 No Child Left Behind Act. It will also analyze several factors concerning school district demographics, principal longevity, and continuity as they relate to student achievement.

The role of principals in today's educational climate is controlled by measures of accountability and standards by which their job performance is judged. As the role of the principal has evolved and grown in responsibility, those who hold these positions have also had to change and evolve. 21<sup>st</sup>-century principals are far different from the first principals of the early 1800s. Accordingly, this chapter provides information about the history and evolution of principals' roles in education, principals' turnover and academic achievement, and how today's principals fill many changing roles.

### **Purpose of the Review**

In reviewing the literature on the topic of principal longevity and continuity relative to student achievement, it is evident that while some research-based philosophical and theoretical articles relate to this topic, significant research studies on

the topic are lacking. Overall, the literature on principal longevity and continuity and their impact on student achievement is limited. The purpose of this review is to identify empirical studies that: (a) examine the history, evolution, and ever-changing roles of the principal; (b) investigate how the era of accountability under the No Child Left Behind Act impacts principal leadership relative to student achievement; and (c) identify the demographic factors that impact principal longevity and continuity relative to student achievement.

This review was guided by the study's three research questions:

- 1) What is the relationship between New Jersey principals' district tenure (i.e., length of time in a district school as a principal) and student academic achievement, as evidenced on the 2011-2012 11<sup>th</sup> Grade NJ HSPA?
- 2) What is the relationship between New Jersey principals' longevity (i.e., years of experience as a principal) and student academic achievement, as evidenced on the 2011 – 2012 11<sup>th</sup> grade NJ HSPA?
- 3) What is the relationship between New Jersey principals' educational continuity (i.e., total number of years in education) and student academic achievement, as evidenced on the 2011-2012 11<sup>th</sup> Grade NJ HSPA?

### **Literature Search Procedures**

The extant literature reviewed here was accessed through several online databases, including ERIC, EBSCOhost, ProQuest, Dissertation Abstracts, PsycINFO, AERA online search services, Academic Search Premier, Data Universe, the State of New Jersey Department of Education School Report Card website, and AltaVista. I also evaluated

print editions of peer-reviewed educational journals and peer-reviewed educational books. The reviewed studies include both multiple-method and descriptive non-experimental, non-experimental, quasi-experimental studies. Throughout the review, I follow Boote and Beile's (2005) framework for scholarly literature reviews in an effort to present the results of similar studies effectively and systematically (Potts, 2011).

### **Inclusion and Exclusion Criteria**

Studies that met the following criteria were included in this review:

1. Peer-reviewed articles, books, dissertations, or government reports. Peer review adds a layer of academic strength and integrity.
2. Used experimental, quasi-experimental, or non-experimental groups.
3. Included the following research methods: relational, non-experimental, multiple regression, meta-analysis, and quantitative.
4. Books published after 1950, except for some older seminal works.
5. Reported at least statistical significance.

### **The Evolution of the Role of the Principalship**

A focus on instruction has always been at the forefront of a principal's role. In the 1800s it was common for a principal to fulfill the same job tasks as classroom teachers, as well as determining the time for opening and closing the school, scheduling classes, securing supplies and equipment, taking care of and managing the building, and communicating with parents and patrons (Jones et al., 1969). In the latter half of the 1800s the role of the principalship changed significantly. Though principals were being selected on the basis of their knowledge of teaching methods, large school development required a principal to be more of a supervisor than anything else. These early principals

represented “an administrative convenience rather than positions of recognized leadership” (Spain, Drummond & Goodland, 1956, p. 24). For example, elementary principals in Cincinnati were to perform these duties:

1. “Function as the head of the school charged to his care
2. Regulate the classes and courses of instruction of all pupils, whether they occupied his room or the rooms of other teachers
3. Discover any defect; in the school and apply remedies
4. Make defects known to the visitors or trustees of wards, or districts, if he were unable to remedy conditions
5. Give necessary instruction to his assistants
6. Classify pupils
7. Safeguard schoolhouses and furniture
8. Keep the school clean
9. Instruct assistants
10. Refrain from impairing the standing of assistants, especially in the eyes of their pupils
11. Require the cooperation of his assistants” (Pierce, 1935, p. 12).

“Principals, though still teaching, were spending less time in instruction. Boston principals in 1858 taught half days and attended to administrative duties during the other half. By 1867, principals in New York City were relieved of all teaching duties, but nationally, non-teaching principals were still the exception. As late as 1881, Chicago principals were required to devote' as much as one-half of the day to instruction” (Pierce, 1935). Responsibility for routine and clerical duties gradually declined, while the

principal was increasingly responsible for the general management of the school. This changing role was due primarily to the crowded conditions in schools and the large number of minimally qualified teachers. The principal's role shifted from that of the “presiding teacher” of the school to one of “directing manager” (Gross & Herriott, 1965). Their supervisory duties also increased. An 1859 list of activities performed by principals included: “(1) examination of classes, (2) classification of students, (3) promotion of students, (4) conducting model lesson's, and (5) exercising careful supervision over the discipline and instruction of the whole school. In addition, many high school principals were given supervisory duties over the elementary schools in their districts (Pierce, 1935)” (Pellicer, Allen, Tonnsen, & Surratt, 1981).

“With these changes the status of the principal in the community increased. Often the high school principal was referred to as “The Professor.” He was accorded more respect than either the elementary principal or the superintendent and was considered to be the scholarly, intellectual leader of the community (Anderson & Dyke, 1963). In 1884, Superintendent Howl of Chicago stated, ‘The prime factor in the success of individual schools is the Principal...’ (Pierce, 1935, p. 39).”

“As the twentieth century approached, the board of education and the superintendent became convinced that the principal should have more control over his school (Benden, 1966). Principals were beginning to be formally recognized as the official; intermediary between the teachers and the higher administration, they were given the right to set and enforce standards that the students must meet before graduation. However, as principals became more responsible for the internal management of schools, they became more content in their positions. Though they were granted many

opportunities for professional leadership, they were slow in responding. During the period from 1895 to 1910, principals wrote little about their experiences; they were reluctant to try new procedures; they conducted minimal research in the field of educational administration. Principals, like their teachers, were professionally conservative. There was a tendency to maintain the status quo. As long as there were no major problems, principals were content to let each teacher manage his own classes. Supervision and evaluation were perfunctory. The principals fretted about clerical problems and petty routine. They were reluctant to become vigorous, dynamic leaders. Principals hid behind their tenure rights, more concerned about the welfare of their positions than about the school's instructional program (Pierce, 1935)” (Pellicer et al., 1981).

In 1921 the National Association of Elementary School Principals was created in order to improve the role of the principal. The organization conducted many studies in an effort to prove that principals needed to move from “routine and purely housekeeping facets of their work to control of the instructional program” (Gross & Herriott, 1965, p. 4). Though research and other studies contributing to the Association’s work strengthened their claim, a discrepancy still existed between school superintendents’ beliefs and what principals actually did on a daily basis. “Boggs studied school board regulations regarding the responsibilities of principals in thirty large cities in 1920. His conclusion was:

It appears that in the judgment of most school boards and superintendents, principals are not mainly officers of professional supervision, but rather-odd-job and clerical workers whose business it is to keep the machinery well-oiled and smoothly running while other people perform the higher professional functions. (Boggs, 1920, p. 711).



Overall, the literature suggests that the principal is the most important component to ensure overall student achievement. The board of education and the superintendent granted principals the power to “direct teachers, enforce safeguards to protect the health and morals of pupils, supervise and rate janitors, require the cooperation of parents, and requisition educational supplies. They were clearly recognized as the responsible administrative heads of their schools” (Gross & Herriott, 1965, p. 3). Principals are seen as the glue that holds everything together within the school, and doing so successfully requires great skill. In his book *The American High School* (1915), John Franklin Brown called the position “ancient and honorable.” In describing the qualities that principals should possess, he listed leadership, being a good organizer and good manager of people, knowledge, self-confidence, common sense, and an understanding of human nature and personality (pp. 224-227). Current literature on the principal’s role supports this research.

### **The Principalship in Contemporary Times of Change**

The principalship in the 21<sup>st</sup> Century has become more challenging since the implementation of the NCLB Act of 2001. The American educational system is more complex and diverse than ever before, and principals are now required to have at least a master’s degree in educational leadership and to pass a standardized examination. Similarly, the level of accountability is at an all-time high. New Jersey’s TEACHNJ law “mandates statewide implementation of stronger, more rigorous evaluation systems. New evaluation rubrics must include four annual rating categories: Highly Effective, Effective, Partially Effective, and Ineffective. These rubrics must be annually submitted to the Commissioner of Education for review and approval, and are not subject to collective negotiations. Under AchieveNJ, principals will be held accountable for school wide

Student Growth Percentile (SGP) score data if enough tested grades and subjects are taught in their school. These scores represent the median of all qualifying SGP scores in a principal's school. For principals who lead schools with two or more tested grades or subjects, 30 percent of their evaluation will be based on school wide SGP data. For principals with only one SGP grade or subject, 20 percent of their evaluation will be based on school wide SGP data” (NJDOE, 2012).

“Educational leaders in the twenty-first century are expected to produce higher levels of learning for all students. In alignment with this goal many university-based preparation programs have redesigned their delivery formats, aligned their curricula to new professional standards, and updated their performance assessments for graduate students to more accurately reflect the new nature of leadership” (Browne-Ferrigno, 2007; Jackson & Kelley, 2002; Murphy & Forsyth, 1999). Over the last two decades, the role of the school leader has become more complex as the nature of the work has shifted. “One reason for this shift is that schools have been in reform mode for several decades. Since the publication of *A Nation at Risk* (1983), the prevailing rhetoric has been that our schools are failing and we must do something to fix them. Hence the apprentice models of school leadership preparation are no longer appropriate because they simply replicate the status quo. New school leaders must be prepared to be change agents, and therefore the nature of leadership preparation must change as well” (Tooms, Barnett, & Shoho, 2010).

Over the last decade, the field of school administration has also reframed itself. In much of the contemporary literature, the school administrator (principal) is now referred to as the school leader or school executive. This highlights a schematic shift in the way

the role is conceptualized. During the 1900s principals spent most of their time being expert managers, and embraced the values and practices of business and industry. The predominant view of school emphasized the principles of scientific management (Cooper & Boyd, 1987; Taylor, 1911). However, in 1996 the Interstate School Leaders Licensure Consortium (ISLLC) adopted its “Standards for School Leaders.” Over 43 states adopted these standards that represented a common core of knowledge dispositions, and performances that link leadership and student achievement. The standards encouraged the use of performance-based systems of assessment and evaluation. As the standards and accountability movement took hold, the passage of NCLB ushered in a new era of principalship (Tooms et al., 2010). Before 2001 principals were not held accountable for student failure. Today’s principals are accountable for student success and tasked with promoting social justice and equity of educational opportunities for all students, by creating a collaborative culture of adult and student learners (Grogan & Andrews, 2002; Lashway, 2002). With the passage of NCLB, contemporary principals have been called to lead systemic reform efforts and educate all children to proficiency, regardless of ethnicity, income, or family background. “The shift in federal educational priorities, from equal opportunity to equal outcomes, is dramatic and unprecedented” (Fusarelli & Fusarelli, 2005). In general, principals are encouraged to provide instructional leadership in schools to focus on curriculum, instruction, teacher pedagogy, and student achievement measures.

In summary, the literature suggests that in the past several decades there has been an increase in principal development and accountability, in order to improve student achievement. This is a reaction to the perceived threat that America’s youth would not be

able to compete in a global economy (West & Peterson, 2003.) One of the most notable education reform efforts is the *Goals 2000: Educate America Act*. In the Goals 2000 Act legislators sought to correct past failures by setting national standards and uniform standards, as well as by establishing a means of assessment (Potts, 2011; United States Department of Education, 2000). The literature also demonstrates that the role of the principal has changed and continues to be modified: “External factors such as student accountability, increased public scrutiny of schools, and education leadership standards focus attention on the changing responsibilities of principals” (Tooms et al., 2010).

### **Principals’ Roles in Student Achievement**

Education scholarship is increasingly giving attention to the study of the relationship between principal leadership and student outcomes. There are many factors affecting this trend, including increasing accountability, less available funding, parental and labor market demands, technological advances, public school alternatives, and changing school environments (Hallinger & Heck, 1996; Task Force on the Principalship, 2000). A meta-analysis of 30 years of research of the effect of leadership on student achievement concluded there is a substantial relationship between leadership and student achievement (Marzano et al., 2003).

Hallinger and Heck (1996) contended that the influence of principals on student achievement is indirect but powerful. Their review compiled 15 years of research on how principals impact their schools. Principals, the review showed, influence school performance by shaping school goals, direction, structure, and organizational and social networks. Further, successful principal leadership guides the school policies, procedures, and practices that contribute directly to student learning. Hallinger and Heck stated that

educational policymakers have been inclined to believe that principal leadership is critical to the academic achievement of students (1996). The principal's role as instructional leader and the effect of the principal on student learning cannot be overemphasized (Cotton, 2003). Research on school effectiveness has also shown the importance of strong administrative leadership in student learning (Brookover & Lezotte, 1977; Edmunds, 1979).

According to Hausman and Sperry (2000), principals are critical to the development and maintenance of effective schools. “They concluded that ideal principals must be prepared to face a world of decentralized school structures, increasing and changing environmental boundaries and roles, less homogeneous schools, closer contact with stakeholders, and a market-driven view of education. They must be negotiators of the environment, focus on their interpersonal skills, read and adjust to their environment, understand and cope with far-ranging issues, be politically astute, be prepared to adjust their leadership styles, and be ethically grounded” (Hausman & Sperry, 2000). The function of the principal in sustaining a school-wide purpose of focusing on student learning is empirically supported. On a general level, the most empirically sound studies conclude that principal leadership that makes a difference targets internal school processes directly linked to student learning (Hallinger & Heck, 1996).

In a 2002 study, Karen DeMoss examined the role principals play in mediating the context of high-stakes testing, and found that principals' philosophies about their staff and their roles as leaders were related to schools' long-term achievement gains. In addition, the data suggested that the ways principals framed how their schools would respond to the testing environment was responsible for the school's test performance.

Similarly, the Task Force on the Principalship (2000), part of the *School Leadership for the 21<sup>st</sup> Century Initiative*, stated that principals can make a difference. The report also stated that, without strong leaders, schools have little chance of meeting any other challenge. For the past century, principals mostly were expected to comply with district-level edicts, address personnel issues, order supplies, balance program budgets, keep hallways and playgrounds safe, put out fires that threatened tranquil public relations, and make sure that busing and meal services were operating smoothly. Principals still need to do all those things.

Members of this task force agreed that the top priority of the principalship must be leadership for learning. Contemporary schools require principals whose role will be defined in terms of instructional leadership, community leadership, and visionary leadership. The report emphasizes that leadership for student learning is the priority that connects and encompasses all three roles. Crow et al. (2002) similarly addressed the role of the principal, suggesting that principals' activities must evolve as schools do and that principals must become change agents, motivating teachers to learn as they ensure professional development is valued and meets teacher and student needs. They further postulated the need for principals to be oriented toward shared decision-making related to student learning, to be the central figures in school accountability, and, as instructional leaders, to incorporate empirical data in curricular and instructional decisions. In addition, they must find solutions to the challenges of increased accountability.

On an international level, school principals are increasingly held accountable for educational quality. It is believed that students' success or failure is determined by the way a school is run. Some research findings indicate that the principal's role should

include having high expectations for teachers and student achievement, the supervising of teachers, coordination of the curriculum, emphasis on basic skills, and the monitoring of student progress (Witziers, Bosker, & Kruger, 2003). School leadership has become an international priority in education policy, playing a key role in improving school outcomes by influencing the motivations and capacities of teachers and the school climate and environment. The role of effective school leadership is an imperative part of improving efficiency and equity in schools, while at the same time expectations for school leaders are changing (Pont, Nusche, & Hopkins, 2008).

As these studies reflect the increasingly critical role principals play in improving teaching and learning, it is apparent that today's principals must serve as leaders for student learning. Their role includes having a knowledge of academic content and pedagogical techniques, having the ability to work with teachers on strengthening skills, being adept at collecting, analyzing, and applying data, and having the motivational ability to rally students, teachers, parents, local health and social service agencies, youth development groups, local businesses, and other community residents and partners around the common goal of raising student performance. They must also have the ability to exercise autonomy and authority to pursue these strategies. The role of the principal is central. It includes effectively leading a community of teachers, learners, and other school community members (Task Force on the Principalship, 2000). Likewise, a fall 2007 University Council for Education Policy Brief (Young, Fuller, Brewer, Carpenter, & Mansfield, 2007) addressed the principal's role in creating a positive school environment characterized by high expectations for students and teachers. Recruiting and retaining high quality teachers are important aspects of the leadership role of principals in

impacting student learning as well.

In summary, the literature on this topic suggests that the relationship between principal leadership and student achievement is substantial both nationally and internationally. According to The Task Force on the Principalship (2000) principals must possess a skillset in the categories of community, instruction, and visionary leadership. Principals who focus on these three categories help to ensure high levels of student achievement are met. A principal is crucial to increasing student success due to responsibilities required of the role. Principals are expected to build quality in teachers, which has a significant impact on student achievement when the processes they propose are implemented with fidelity.

### **Principal Turnover and Student Achievement**

In recent years there been an increase in principal turnover, and the associated difficulties of finding qualified replacements is an urgent issue in school districts across the country (Hargreaves, 2005; Norton, 2003). The atmosphere created during the transition period, both before and after the principal leaves, may affect student learning, as it has been identified as an especially sensitive time in determining the future success of the school (Fink & Brayman, 2006; Hargreaves, 2005; Jones, 2000; Macmillan et al., 2004; Norton, 2003). In 2009, the Institute for Education and Social Policy at New York University released a condition report focusing on principal turnover and academic achievement, using a mixed-methods approach. The report focuses on principal turnover in high school and its effects on student performance and how principals manage the transition to new leadership to minimize this impact (Weinstein, Jacobowitz, Ely, Landon, & Schwartz, 2009). According to the authors, “[t]he centerpiece of our quantitative



analysis is a regression model linking principal turnover (principal transience) to student outcomes” (p. 61). Principal turnover is measured as a dichotomous variable and the “dependent variables are the percent of student’s graduation in four years, percent of students dropping out after four years, percent of students still enrolled after four years and percent passing the English and Mathematics Regents examinations” (p. 43). Weinstein et al. used a longitudinal database developed by researchers at the Institute for Education and Social Policy (IESP), containing data on all New York City high schools operating between 1993 and 2007, and drew on the NYC DOE’s Annual School Reports. In terms of principal turnover and student achievement, three key findings emerged from this study.

First, the authors found that longevity and continuity mattered. “Our results show that there is considerable principal turnover during the first ten years of a school’s existence. In our sample, the founding principal continued to lead in only 16% of our schools, while 48% percent had one change and 36% experienced two or more changes (Table 3). The data also shows that a founding principal is likely to remain at her school during the first four years and then leave. As shown in Table 4 there is a dramatic jump between year four and year five from 11.3% to 42.5% and then again between year six and year seven from 47.5% new principals to 71% new principals. The average tenure for principals in our sample is 3.4 and we can see that average tenure remains under 4.7 years during our study period. Figure 2 charts the distribution of the number of principals in a school over the study period. As the school graduates its first class most of them will begin to experience the transition from the founding principal to her successor. In year seven through nine, many of the schools are now experiencing yet another transition to a

new principal. Among those schools that have been opened at least 10 years, a small number are on their fifth principal” (Weinstein et al., 2009, p. 10).

Second, principal turnover affected student achievement. “The coefficients on second principal and third principal in both models are negative and suggest that while the transition from founding principal to her immediate successor (Beta = -0.98 and not statistically significant) may lead to a small decrease in the percent of students graduating the change from the founding principal to the third principal leads to a larger decrease in graduation rates and is statistically significant (Beta = -5.52,  $p < 0.10$ ). With the addition of the control variables the coefficients on these variables decrease, but remain the same in direction and statistical significance. These results suggest that while the change from the founding principal to her immediate successor may have little effect on student performance further changes in principal leadership may be more problematic” (Weinstein et al., 2009, p. 11).

Finally, the authors found that support mattered. “Managing the transition period can be complicated, especially for new principals entering roles that ‘defy support.’ But our study suggests that there are ways to ease the transition period; all of our principals told us that an on-going, sustained connection with another principal was critical in easing their transition. They also suggest that it would have been helpful to shadow another principal for a few months before assuming the principalship themselves. Indeed, the one principal in our sample who had advance noticed of her transition remarked about how helpful it had been to be able to work with the previous principal. This enabled the new principal to begin her role on substantive footing, where others approached their new

roles in survival mode. Finally – districts should work to decrease the rate of principal turnover within schools” (Weinstein et al., 2009, p. 19).

Overall, the extant literature suggests that school leaders influence students indirectly. While teachers have the most influence on student performance, principals are essential for setting the tone of the learning community and modeling good teacher practice. “The role of the principal is crucial to promoting and supporting teachers’ achievements, creating a positive work environment for teachers, and improving staff morale, which also creates the right learning environment for students” (Firestone et al., 2001; Leithwood, et al., 2008). The data shows that while the transition from a founding principal to a second principal may only lead to a slight decrease in student outcomes, multiple changes, particularly in a short time period and while the school is in its early development, may be more problematic (Weinstein et al., 2009). Furthermore, it is suggested that the decline in student performance caused by principal turnover can be mitigated by the implementation of principal supports such as mentor programs and job shadowing, before new candidates step into the principalship role. However, no matter what support exists, multiple turnovers in short periods of time will result in a student achievement decline.

### **Principal Longevity and Student Achievement**

The Center for Applied Research and Educational Improvement (CAREI) conducted a multiple-method research study (combining data from previous qualitative and quantitative studies into a single sample) on the contributions of leadership to the implementation of several initiatives aimed to improve student learning and the quality of schools (Louis et al., 2010). The goal of the study was to identify the nature of successful

educational leadership and to better understand how such leadership can improve educational practices and student learning. CAREI collected data from 9 states, involving 43 school districts and 180 schools of various levels. Survey data was collected in the first and fourth years of the study; interviews in districts and schools were completed in three cycles over the five years of the project. These efforts yielded, by the end of the project, survey data from a total of 8,391 teachers and 471 school administrators. Lastly, they obtained student achievement data for literacy and mathematics in elementary and secondary grades, using scores on the states' tests for measuring Adequate Yearly Progress as mandated by NCLB (Louis et al., 2010). They posed several research questions:

- “How frequently does principal turnover occur in the average school?
- Does principal turnover significantly affect conditions across the school and in classrooms?
- Does principal turnover significantly affect student achievement?
- Do coordinated forms of distributed leadership, as some evidence suggests, have the potential to reduce negative influences arising from frequent principal turnover?
- What, if anything, can incoming principals do to minimize the negative effects of rapid principal turnover?” (Louis et al., 2010).

From their quantitative analysis of principal turnover, six key findings emerged.

First, CAREI found that on average, schools experience fairly rapid principal turnover: about one new principal every three to four years. After surveying 80 schools and calculating “the means, standard deviations, and scale reliability (Cronbach’s alpha)

of variables for this sub-study they found the average length of tenure of 3.6 years per principal. The standard deviation for this measure is relatively large (1.34)” (Louis et al., 2010). Second, rapid principal turnover has moderately negative effects on school culture. “When calculating Pearson’s correlation coefficients to assess the relationships between mediating variables, the independent variable (the number of principals in the school in the past 10 years), and the dependent variable (student achievement) shows that the relationships among principal turnover and measures of school and classroom conditions are negative. When testing the mediated effects of principal turnover on student achievement it explains that the total effects of principal turnover explain 24% of the variation in student achievement. Principal turnover has significant and moderately negative effects on school culture (-.37), although school culture has moderately strong, significant, effects on student achievement (.68)” (Louis et al., 2010).

Third, rapid principal turnover did not seem to have much effect on classroom content or instruction. This study looked at “the effects of turnover on curriculum and instruction are insignificant, and the measure of classroom curriculum and instruction is negatively, but very weakly, related to student achievement. It is interesting to see that the partial correlations between these mediating variables and student achievement are strong and positive, but the addition of principal turnover to the model reduces the effect of curriculum and instruction on student achievement to very low level (-.06).” However, rapid principal turnover explained a modest but significant amount of variation in student achievement across schools. “Results suggest that principal turnover has significant negative effects on student achievement. These effects are mediated more by school-level than classroom level conditions. The weaker impact of principal turnover on classroom

variables might suggest that teacher classroom practice is in some way buffered from direct effects of changes in principal leadership” (Louis et al., 2010).

Fifth, the authors found that coordinated forms of leadership distribution had the potential to mitigate at least some of the negative consequences of rapid principal turnover. “Taking a deliberate approach to the distribution of leadership, driven by a principal and district leaders committed to collaborative work and plan fully aligned leadership distribution. Building a strong professional community, also producing plan fully aligned patterns of leadership distribution capable of surviving changes in leadership. Leadership should be distributed among a number of teachers. Despite frequent changes in principals, the supportive cultures developed in these schools continued to thrive” (Louis et al., 2010). Finally, this study found that principals newly assigned to schools who initially work within the existing culture of their schools, rather than attempting to change it quickly and substantially, are more likely to avoid negative turnover effects (Louis et al., 2010). Overall, the authors noted that “while rapid principal turnover has negative effects on student achievement ‘on average,’ some individual schools are able to manage rapid turnover in ways that prevent achievement decline. It seems very unlikely, however, that student achievement will improve under most conditions associated with rapid principal turnover” (Louis et al., 2010).

Other studies support these findings, both before and after the inception of NCLB, and establish the overall importance of principal leadership to building a strong school culture that focuses on learning and student achievement (Corbett, Dawson, & Firestone, 1984; Davidson & Taylor 1998; Fullan, 1992; Fullan, 1993; Hargreaves et al., 2003; Louis et al., 2010; Macmillan, 2000; Marzano & McNulty, 2003; Miskel & Cosgrove,

1984; Reynolds et al, 2008; Ross & Gray, 2006; Sarason, 1982; Schein, 1993; Stewart, 2000; Tschannen-Moran, Woolfolk-Hoy, & Hoy, 1998; Waters & Ogawa, 1995). Overall, the extant literature suggests that school leaders influence students indirectly. Therefore, the turnover of a principal affects school culture: its shared values, norms, and contexts (Deal, 1993). The data suggest that principal turnover has a significant impact on school culture and that “healthy school cultures correlate strongly with increased student achievement and motivation” (Patterson & Rolheiser, 2004). Principals who build teacher capacity, delegate leadership, promote teacher efficacy, and create cohesion have a strong effect on school culture and on classroom conditions, which, in turn, affects students’ success (Sarason, 1982).

### **The Era of Accountability under Adequate Yearly Progress**

One of the most incredible pieces of legislation enacted to affect education in America was the No Child Left Behind (NCLB) Act of 2001. The goal of the NCLB was to improve student and staff performance in primary and secondary schools in the United States, and it was eventually re-classified as a federal program. It is built on a foundation of increasing the standards of accountability for states, school districts, and local schools. It also provided parents with more flexibility in being able to choose which schools their children would attend (U.S. Department of Education, 2006). Overall, NCLB focused on setting high standards and establishing measurable goals to improve student achievement (Potts, 2011).

### **Federal Requirements of NCLB**

The New Jersey Department of Education (NJDOE) (2010) stated: The federal *No Child Left Behind Act (NCLB)* requires all states to establish standards for accountability for all schools and districts in their states. Furthermore, it calls for the *inclusion* of all students, even students who may have been excluded or exempted from participating in state assessment programs in the past. The foundation for the accountability system is based on a state's academic content standards, which define what students should know and be able to do, and aligned assessments to measure whether students have mastered these standards. The accountability system looks at the degree to which students across schools and districts are mastering the state standards. NCLB has set the goal of 100% proficiency by the year 2014 with states setting incremental benchmarks (New Jersey Department of Education Office of Student Achievement and Accountability, 2010).

The NJDOE (2010) stated: In order to meet the federal requirements, New Jersey has adopted the New Jersey Single Accountability System. In the New Jersey Single Accountability System state assessments literacy and mathematics are based on the New Jersey Core Curriculum Content Standards. All students enrolled in New Jersey Public Schools, plus all student subgroups, must meet the proficiency benchmarks to ensure the goal of 100% proficiency. Students must score either "proficient" or "advanced proficient" on the assessment to be counted toward meeting the benchmarks. The schools are then evaluated using the *Adequate Yearly Progress (AYP)* indicators. In the state of New Jersey, student achievement is determined by grade span (Elementary School – grades 3-5, Middle School – grades 6-8, and High School) in each content area. There are 40 indicators that must be met (including participation and proficiency rates) plus a



secondary indicator. A *safe harbor* calculation is applied to measure significant progress if the benchmark is missed. When a school does not meet AYP for two consecutive years in the same content area, it is designated as a “*school in need of improvement*” (Potts, 2011; United States Department of Education Office of Student Achievement and Accountability, 2010, p. 1).

The NJDOE (2010) stated: “The calculation of safe harbor is essentially a measure of improvement applied to the total population and each subgroup that has not made AYP benchmark(s). If the percent *partially proficient* achieved in the previous year is decreased by 10% in the current year, safe harbor is achieved and the total and/or subgroups are deemed to have made AYP. The making of safe harbor is a critical component to the success of superintendent in terms of student achievement” (Potts, 2011).

### **Chapter Summary**

The role of the principal has evolved greatly in American education. In this chapter I reviewed the evolution, era of accountability (AYP), and the impacts of principal leadership and principal turnover on student achievement. The literature review began by looking at the inception of the position of the principal starting in the 1800s and how it has evolved into present-day expectations. At first, the principal was expected to fill the role of head teacher, then the job evolved into a dual role of teacher and manager, only to fall back into the role of instructional leader of a school. Today’s principals are expected to build a strong culture, facilitate teacher practices, and establish relationships that focus on student academic achievement (Marzano & Waters, 2003). Their roles have also changed greatly due to the new accountability regulations and the passing of the No

Child Left Behind Act. NCLB's original goal was for every student to reach 100% proficiency on state assessments by 2014, but many schools failed to reach that goal. The fact that each school district is required by federal and state law to make Adequate Yearly Progress can create high-performing principals or high levels of turnover.

The principalship has recently faced scrutiny that can be traced back to the publication of *A Nation at Risk* in 1983. When *A Nation at Risk* was published during President Ronald Reagan's term, the position was transformed from management to educational leadership. Though principals still had managerial responsibilities, they also had to be charismatic in order to engage people at the school and district level. This created an increase in their responsibility to be instructional leaders as they pursued success in student academic achievement.

These elements create significant job stress for principals, especially in terms of increased pressure for student academic achievement (Potts, 2011). Though this stress likely relates to turnover, there has been little research on the impact of principal turnover on student achievement. This is interesting because the rate at which principals remain in a given position is low. It is my hope that the present study, along with future studies on principal tenure, continuity, and longevity, will offer those aspiring to the position a road map to career success. Chapter 3 will shed more light on the roles principal play and how their tenure, continuity, and longevity can successfully impact student academic achievement.

### **Chapter Three: Methodology**

As the principal position has evolved from being a fulltime teacher with administrative responsibilities in the 1800's to an administrative leader held accountable for student growth in the 21<sup>st</sup> century, a plethora of new responsibilities and duties have emerged. Over the past several decades there has been an increase in principal development and accountability in order to improve student achievement (West & Peterson, 2003.) Public school education in the United States heavily emphasizes student achievement, and school principals are held accountable for their school results on standardized tests. This emphasis necessitates a deeper exploration of the many complexities of principalship. The purpose of this relational, quantitative, and explanatory study is to examine the impact a principal's length of tenure, longevity, and continuity has on student academic achievement, as measured by the 2011-2012 New Jersey High School Proficiency Assessment for grade 11. This chapter presents the methodology used in the study.

The researcher used a multiple regression process to explore the relationship of the three predictive variables to the dependent variable, the academic achievement of students. To isolate a practical sample, the researcher chose to focus on New Jersey school districts in the lower socioeconomic groupings of A, B, and CD in the New Jersey State Department of Education District Factor Grouping Rating Scale (DFG). The researcher chose this population to study because he wanted to examine if there was a relationship among the variables in grade 11 in lower socio-economic school districts. By examining principals in lower socioeconomic district factor groupings and their ability to achieve adequate yearly progress, as evidenced by their students' scoring "proficient" or

better on the 2012 language arts section of the NJ HSPA, this study will enable future educational leaders to better understand their roles as they work to positively impact student academic achievement.

The DFG's for New Jersey are broken down into eight different categories by socioeconomic status: A (39 Districts), B (67 Districts), CD (67 Districts), DE (83 Districts), FG (89 Districts), GH (76 Districts), I (103 Districts), and J (25 Districts) (NJDOE, 2016). A is the lowest socioeconomic class while J is the most affluent. "The District Factor Groups (DFGs) were first developed in 1975 for the purpose of comparing students' performance on statewide assessments across demographically similar school districts. The categories are updated every ten years when the Census Bureau releases the latest Decennial Census data" (New Jersey State Department of Education District Factor Groups, 2004, p. 1; Potts, 2011).

The present study uses the theoretical constructs in the reviewed literature, as well as the practices outlined by the New Jersey State Department of Education, the NSDC, PROQUEST, Data Universe, The New Jersey School Report Card, and ERIC, to guide its implementation. Chapter 3 will describe the methods used, including the research design, research questions, and sample population. It will also present the conceptual framework, instrumentation used, and the data collection methods (Potts, 2011).

### **Research Questions**

As stated above, the present study poses three research questions:

- 1) What is the relationship between New Jersey principals' district tenure (i.e., length of time in a district school as a principal) and student academic achievement, as evidenced on the 2011–2012 11<sup>th</sup> Grade NJ HSPA?
- 2) What is the relationship between New Jersey principals' longevity (i.e., years of experience as a principal) and student academic achievement, as evidenced on the 2011–2012 11<sup>th</sup> Grade NJ HSPA?
- 3) What is the relationship between New Jersey principals' educational continuity (i.e., total number of years in education) and student academic achievement, as evidenced on the 2011–2012 11<sup>th</sup> Grade NJ HSPA?

### **Hypothesis**

The students of any school district in New Jersey, regardless of District Factor Grouping and socioeconomic status, will benefit greatly from the educational achievement opportunities that a principal with tenure, longevity, and continuity can bring to a district.

### **Research Design**

This study uses a relational, non-experimental, explanatory, cross-sectional research design (Johnson, 2001), and utilizes multiple regression analysis to measure the relationships of the predictive variables (principal experience in district, principal experience in New Jersey, and principal total experience), and the dependent variable. According to Johnson (2001), “[n]on-experimental research is frequently an important

and appropriate mode of research in education” (p. 3) due largely to the inability to perform randomized experiments and quasi-experiments. Johnson (2001) also stated that an explanatory study must meet the following criteria: (a) were the researchers trying to develop or test a theory about a phenomenon to explain “how” and “why” it operates? (b) Were the researchers trying to explain how the phenomenon operates by identifying the causal factors that produce change in it? (p. 9).

In order to determine which district and school variables had a statistically significant relationship to student achievement, the study used simultaneous multiple regression models. This strategy is used when the researcher has no logical or theoretical way to structure the data. This method is typically used to explore and maximize prediction (Predhazur, 1997). Scatter diagrams of residuals and normal probability plots of residuals were conducted to test assumptions (Potts, 2011). Given the sample size of the population, 136 school districts within the New Jersey A, B, or CD district groupings were examined. The number of schools within each district factor grouping and the number of schools meeting AYP are displayed in Table 1.

Table 1

*Number of Schools Used in Study (DFG A-CD)*

District	Number of Schools	Number of Schools Meeting AYP
A	68	29
B	37	18
CD	31	22
Total	136	69

These data were acquired, compiled, and analyzed using the New Jersey High School Assessment summary for Spring 2012. The 2011-2012 New Jersey High School Proficiency Assessment (NJHSPA) for grade 11 has a cutoff score of 200 for proficiency, and the researcher considered all districts that met AYP standards. If a district did not make AYP on this test, then this meant that the school was in need of improvement and the students in that district failed to increase the level of proficiency to an acceptable level, as measured by the New Jersey Department of Education.

The researcher chose to use a multiple regression analysis because according to Field (2009), “[r]egression analysis... enables us to predict future [outcomes] based on values of predictive variables” (Field, 2009, p. 198). This methodology allowed for a statistical analysis of the data. It was also an efficient means of gathering data without introducing threats of reliability that can occur with other data collection methods (Suskie, 1996) (Potts, 2011). Given the size of the population, 136 districts, using observations and/or personal interviews was impractical. Doing so would have introduced the potential for bias and inconsistency in the administration of the interview or observation, and the data collected would not have been appropriate for statistical analysis. Specifically, the backward method of multiple regressions “calculates the contribution of each predictive variable by looking at the significance value of the t-test for each predictor...If a predictor meets the removal criterion (i.e. if it is not making a statistically significant contribution to how well the model predicts the outcome variable) it is removed from the model” (Field, 2009, p. 213). After this process is completed, any remaining variables would then be assessed to determine their contribution to the outcome of the dependent variable (Potts, 2011).

The three research questions were examined by conducting a descriptive correlation analysis to discover if the significance of the predictor variables contributes to the independent variable. According to Field (2009), in a multiple regression analysis it is important for the researcher to check and ensure that the assumption of no multicollinearity had not been violated by having any variables that were too closely related to one another, by checking the Pearson Correlation Coefficient, the tolerance level, and the variance inflation factor (VIF) values between the three predictive variables (Field, 2009).

This researcher set the level of significance at  $p < .05$ , as that is the customary level used when working on significance (Krawthol & Anderson, 2001). To check the statistical significance and relative importance of each predictive variable, the researcher examined the unstandardized coefficient beta weights and the standardized beta weights of each predictive variable. In addition, an R square was used to examine the relationships between the various predictive variables and the dependent variable.

### **Sample**

The sample for this study comprised of 11th grade students' achievement scores on the 2011-2012 New Jersey High School Proficiency Assessment, as recorded by the New Jersey School Report Card and Data, from 136 A-CD districts. Of the 549 total districts in the State of New Jersey the researcher chose to look at those districts which were in the District Factor Grouping ranges of A, B, and CD. The criterion for selection was for each district to have met AYP on the 2011-2012 New Jersey High School Proficiency Assessment. 69 of the 136 total districts met this criterion, so the researcher analyzed data from those districts in this study.



## **Data Collection**

The data used in this study was obtained from several sources. Two of the primary sources were The New Jersey School Report Card and Data Universe. The data from these sources were accessed using the following steps:

### **Part 1: Obtaining Data for SPSS Analysis**

- 1) Access the Data Universe website: [php.app.com/agent/educationstaff/search](http://php.app.com/agent/educationstaff/search)
- 2) Select Primary Job “High School Principal.”
- 3) Select Submit.
- 4) Select Details. The information on principal experience in district, educational experience in New Jersey, and total number of experience in education then appears.

### **Part 2: Obtaining Data from the State of New Jersey School Report Card**

- 1) Access the State of New Jersey Department of Education website: <http://www.state.nj.us/education/data>
- 2) Click on NJ Statewide Assessment Reports.
- 3) Click on Assessment Reports for years 1996 to 2014.
- 4) Click on 2012 Assessment Report.
- 5) Click on High School Proficiency Assessment
- 5) Click on Executive Summary or Performance by Demographic Groups or etc.

After the most relevant data for the study was gathered, the researcher entered it into the Statistical Package for Social Sciences (SPSS) software, version 22.0, to run the appropriate statistical analysis.

### **Data Analysis**

This study did not use human subjects and therefore did not need approval from the Institutional Review Board (IRB). The data was obtained from two authentic sources: the New Jersey School Report Card and Data Universe. Once permission was granted by Dr. Daniel Gutmore (Professor/Mentor, Seton Hall University), the data collection procedure began. All the data were collected via web-based tools.

The three research questions were addressed by conducting descriptive and correlational analyses to discover the significance of the predictor variables in contributing to the dependent variable. The research design of this study was quantitative, and it used simultaneous multiple regression analysis to measure the relationship of the predictive variables to the dependent variable. According to Field (2009), "Regression Analysis enables us to predict future outcomes based on the predictor variables" (p. 198). The researcher thus examined the values to assess and determine their contribution to the outcome of the dependent variable. Data regarding the dependent variable and the predictive variables were compiled and entered into the Statistical Package for Social Sciences (SPSS), version 22.0. Histograms and scatterplots of the data were generated, as well as correlation matrices, multi-collinearity statistics, and a simultaneous regression analysis with all of the variables. The scatterplots were analyzed and examined to see if a linear line of strength was present or if the scatterplots were unrelated to the dependent variable. The curvilinear line of the histogram was also analyzed and examined to determine the strength of the results.

### **Summary**

Efforts to hold principals accountable in New Jersey education will continue to increase. Based on the TEACHNJ act school leaders have more pressure on them than ever to produce academically proficient students. School leaders are responsible for determining which programs and resources are adequate to meet the increased accountability measures imposed since NCLB. To aid in that process, this study examines the relationship between student achievement and the length of tenure principals have, as measured by proficiency scores on the 2011-2012 language arts NJ HSPA. Chapter 4 will present the analysis results and interpret them.

## **Chapter 4: Results and Data Analysis**

The 21<sup>st</sup> century is a critical time for school leaders in New Jersey. The New Jersey Department of Education (2016) has imposed increased standards and higher measures of accountability on school leaders, most notably principals. Evaluations for principals and vice/assistant principals consists of two primary components: “principal practice, which is measured by observation and evaluation of leadership, and student growth percentiles” (NJDOE, 2016). There are mounting pressures for principals to lead their school districts in achieving and maintaining student growth percentiles. The ability to meet median Student Growth Percentile is based on “the individual student growth by comparing the change in his/her achievement on the state standardized assessment from one year to the student’s peers” (NJDOE, 2016), including the Grade 11 New Jersey High School Proficiency Assessment.

The purpose of this research was to investigate if the relationship between principal tenure, longevity, and continuity at the district level influences student achievement, as measured on the 2011-2012 New Jersey High School Proficiency Assessment (NJHSPA). This research specifically determined the impact that the length of tenure as a New Jersey Principal in the DFGs A-CD had on student achievement. To do so, it evaluated three predictive variables: (a) total principal experience in district, (b) total experience in education as a principal in New Jersey, and (c) total educational experience. The dependent outcome variable for this study is student achievement.

This chapter contains an overview of the procedures for quantitative data analysis from the population of 136 school districts (originally 161 before exclusion criteria were applied) that represents school districts in the A-CD DFGs of the State of New Jersey. It

will include the procedures within the analysis and a description of the demographic characteristics of the sample. The following research questions were examined in this study:

1. What is the relationship between New Jersey Principals' district tenure (i.e., length of time in a district school as a principal) and student academic achievement, as evidenced on the 2011–2012 11<sup>th</sup> Grade NJ HSPA?
2. What is the relationship between New Jersey Principals' longevity (i.e, years of experience as a principal) and student academic achievement, as evidenced on the 2011–2012 11<sup>th</sup> grade NJ HSPA?
3. What is the relationship between New Jersey Principals' educational continuity (i.e., total number of years in education) and student academic achievement, as evidenced on the 2011–2012 11<sup>th</sup> Grade NJ HSPA?

The chapter will conclude with a summary of the data findings as they relate to the research questions. The outcomes for research questions 1,2, and 3 are then compared to those reported by Louis et al. (2010), to see if there were any relationships between principal tenure at the district level and student achievement.

Table 2

*Collinearity: Pearson Correlation*

		Total P Lang	Exp_district	Exp_NJ	Exp_Total
Pearson Correlation	Total P Lang	1.000	.238	.183	.146
	Exp_district	.238	1.000	.925	.919
	Exp_NJ	.183	.925	1.000	.989
	Exp_Total	.146	.919	.989	1.000
Sig. (1-tailed)	Total P Lang	.	.024	.066	.116
	Exp_district	.024	.	.000	.000
	Exp_NJ	.066	.000	.	.000
	Exp_Total	.116	.000	.000	.
N	Total P Lang	69	69	69	69
	Exp_district	69	69	69	69
	Exp_NJ	69	69	69	69
	Exp_Total	69	69	69	69

**Data Analysis Procedures**

For this study the researcher used a relational, non-experimental, explanatory, cross-sectional design (Johnson, 2001). The correlational study only collected data from one point in time. According to Johnson (2001), an explanatory study must meet the following criteria: (a) were the researchers trying to develop or test a theory about a phenomenon to explain “how” and “why” it operates? (b) Were the researchers trying to explain how the phenomenon operates by identifying the causal factors that produce change in it? (p. 9; Potts, 2011). In order to determine which district and school variables had a statistically significant relationship to student achievement, the researcher used simultaneous multiple regression models. This strategy is used when the researcher has no logical or theoretical structure to the data. This method is typically used to explore and maximize prediction (Pedhazur, 1997). Scatter diagrams of residuals, partial plots, and

normal probability plots of residuals were constructed to test assumptions (Potts, 2011).

The researcher used data that was collected from the New Jersey School Report Card and Data Universe for this study. This chapter provides an overview of the research questions and examines the results of the analysis performed during this study. This study did not use any human subjects. Using multiple regression analysis, the researcher examined the multicollinearity of the predictive variables, the model summary of the multiple regression analysis of the data and how it was produced, and the standardized coefficient Beta weights of the predictive variables. Results are presented both as brief discussions and in table form (Potts, 2011)

An important step in a multiple regression analysis is to ensure that the assumption of no multicollinearity has been met. Multicollinearity is a statistical phenomenon in which two or more predictor variables in a multiple regression model are highly correlated (Wikipedia, 2011). As displayed in Table 1, Pearson correlations were calculated among the three predictive variables. As each of the correlations exceeds the .80 thresholds, the analysis shows that two variables may be closely related.

Table 3

*Language Arts Proficiency Coefficients and Multicollinearity, Tolerance, and Variance Inflation Factor (VIF) Coefficients<sup>a</sup>*

		Unstandardized		Standardized		95.0% Confidence				
		Coefficients		Coefficients		Interval for B		Collinearity Statistics		
		Std.				Lower		Upper		
Model		B	Error	Beta	t	Sig.	Bound	Bound	Tolerance	VIF
1	(Constant)	86.189	2.682		32.140	.000	80.833	91.544		
	Exp_district	.521	.299	.532	1.741	.086	-.077	1.119	.143	6.981
	Exp_NJ	1.513	.879	1.396	1.721	.090	-.243	3.269	.020	49.230
	Exp_Total	-1.865	.847	-1.724	-2.202	.031	-3.558	-.173	.022	45.862

a. Dependent Variable: Total P Lang

Table 2 displays two other checks for multicollinearity of the predictive variables: the tolerance levels and the Variance Inflation Factor (VIF). The tolerance levels are not below .1 and the VIF scores are well above 10, the relative threshold levels that highlight trouble with the data. Tests to see if the data met the assumption of collinearity indicated that multicollinearity is a concern (Exp\_NJ, Tolerance = .020, VIF = 49.230; Exp\_Total, Tolerance = .022, VIF = 45.862). Thus the model was adjusted. Outliers and influential points were removed from the Total P Lang model: 87,88,84,90,89,83,86,91,94,68, and 98. New Jersey Principals' tenure in the state was removed from the Total P Lang model. This variable added no value to the model (see Table 2).



Table 4

*Mathematics Proficiency Coefficients and Multicollinearity, Tolerance, and Variance**Inflation Factor (VIF) Coefficients<sup>a</sup>*

		Unstandardized		Standardized		95.0% Confidence				
		Coefficients		Coefficients		Interval for B			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound	Tolerance	VIF
1	(Constant)	67.766	3.966		17.087	.000	59.845	75.686		
	Exp_district	.613	.443	.419	1.385	.171	-.271	1.498	.143	6.981
	Exp_NJ	2.805	1.300	1.732	2.158	.035	.209	5.402	.020	49.230
	Exp_Total	-3.097	1.253	-1.915	-2.472	.016	-5.600	-.595	.022	45.862

a. Dependent Variable: Total P Math

Table 4 displays two other checks for multicollinearity of the predictive variables: the tolerance levels and the Variance Inflation Factor (VIF). The tolerance levels are not below .1 and the VIF scores are well above 10, the relative threshold levels that highlight trouble with the data. Tests to see if the data met the assumption of collinearity indicated that multicollinearity is a concern (Exp\_NJ, Tolerance = .020, VIF = 49.230; Exp\_Total, Tolerance = .022, VIF = 45.862). Thus the model was adjusted. Outliers and influential points were removed from the Total P Math model: 87, 88, 84, 90, 89, 83, 86, 91, 94, 68, 98, 80, 106, 76, 71, 75, and 81. New Jersey Principals' tenure in the state was removed from the Total P Lang model. This variable added no value to the model (see Table 4).

### Model of Best Fit: Language Arts

Table 5

*Language Arts Proficiency Collinearity: Pearson Correlation*

		Total P Lang	Exp_Total	Exp_district
Pearson Correlation	Total P Lang	<b>1.000</b>	<b>.146</b>	<b>.102</b>
	Exp_Total	<b>.146</b>	<b>1.000</b>	<b>.933</b>
	Exp_district	<b>.102</b>	<b>.933</b>	<b>1.000</b>
Sig. (1-tailed)	Total P Lang	<b>.</b>	<b>.137</b>	<b>.223</b>
	Exp_Total	<b>.137</b>	<b>.</b>	<b>.000</b>
	Exp_district	<b>.223</b>	<b>.000</b>	<b>.</b>
N	Total P Lang	<b>58</b>	<b>58</b>	<b>58</b>
	Exp_Total	<b>58</b>	<b>58</b>	<b>58</b>
	Exp_district	<b>58</b>	<b>58</b>	<b>58</b>

As displayed in Table 5 above, Pearson correlations were calculated between the two predictive variables. As each of the correlations exceeds the .80 threshold, the analysis shows that these two variables may be closely related.

Table 6

*Language Arts Proficiency Coefficients and Multicollinearity, Tolerance, and Variance**Inflation Factor (VIF) Coefficients<sup>a</sup>*

Model	Unstandardized Coefficients		Standardized Coefficients		Sig.	95.0% Confidence Interval for B		Collinearity Statistics	
	B	Std. Error	Beta	t		Lower Bound	Upper Bound	Tolerance	VIF
1 (Constant)	90.221	1.159		77.826	.000	87.898	92.544		
Exp_Total	.158	.148	.394	1.066	.291	-.139	.455	.129	7.749
Exp_district	-.098	.137	-.266	-.719	.475	-.372	.176	.129	7.749

a. Dependent Variable: Total P Lang

Table 6 displays two other checks for multicollinearity of the predictive variables: the tolerance levels and the Variance Inflation Factor (VIF). After making revisions to the data the VIF scores are no longer above 10, the relative threshold level that highlights trouble with the data. Tests to see if the data met the assumption of collinearity indicated that multicollinearity is no longer a concern (Exp\_Total, Tolerance = .129, VIF = 7.749; Exp\_district, Tolerance = .129, VIF = 7.749)

The researcher chose to utilize the design method of multiple regressions for analyzing the data. By this analysis summary models were produced. None of the predictive variable show significance at the .05 level (New Jersey Principal total experience .291; Experience in the district .475), and none of the models showed significance levels of  $p < .05$ .

Table 7

*Language Arts Proficiency Model Summary*

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.174 <sup>a</sup>	.030	-.005	4.3689

a. Predictors: (Constant), Exp\_district, Exp\_Total

b. Dependent Variable: Total P Lang

Table 7 shows the results of the predictive variables in the simultaneous multiple regression analysis. Negative five-tenths percent of the variance is explained in the predictors of the variables (Adjusted R Square  $-.005 \times 100 = -0.5$ ;  $99.95 + .05 = 100\%$ ). The predictive variables of Experience as Principal in District and Experience Total are displayed in this model. The R Square in a multiple regression represents the explained variance that can be attributed to all the predictors in a progression, and thus gives explanatory power. In Table 7 the Model Summary shows an R Squared of .030 ( $.030 \times 100 = 3.0\%$ ), so 3.0% of the variance in the dependent variable (Total P Lang, the percentage of students who scored "Proficient" or better on the 2011-2012 11<sup>th</sup> grade New Jersey High School Proficiency Assessment in Language Arts) was accounted for by the predictive variables in the model.

Table 8

*Language Arts Proficiency ANOVA*

ANOVA <sup>a</sup>						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	32.932	2	16.466	.863	.428 <sup>b</sup>
	Residual	1049.789	55	19.087		
	Total	1082.722	57			

a. Dependent Variable: Total P Lang

b. Predictors: (Constant), Exp\_district, Exp\_Total

Table 8 shows the effects of the predictive variables *Experience as Principal in District* and *Experience Total* on student achievements. There was not a significant effect of amount of experience on student achievement at the  $p < .05$  level for the three categories [ $F(2, 55) = .863, p = 0.428$ ]. The F-test is designed to test the hypothesis that all predictor variables under consideration have no explanatory power. Since the p-value (.428) is greater than 0.05, the hypothesis is accepted. Thus, the predictors have no explanatory power.

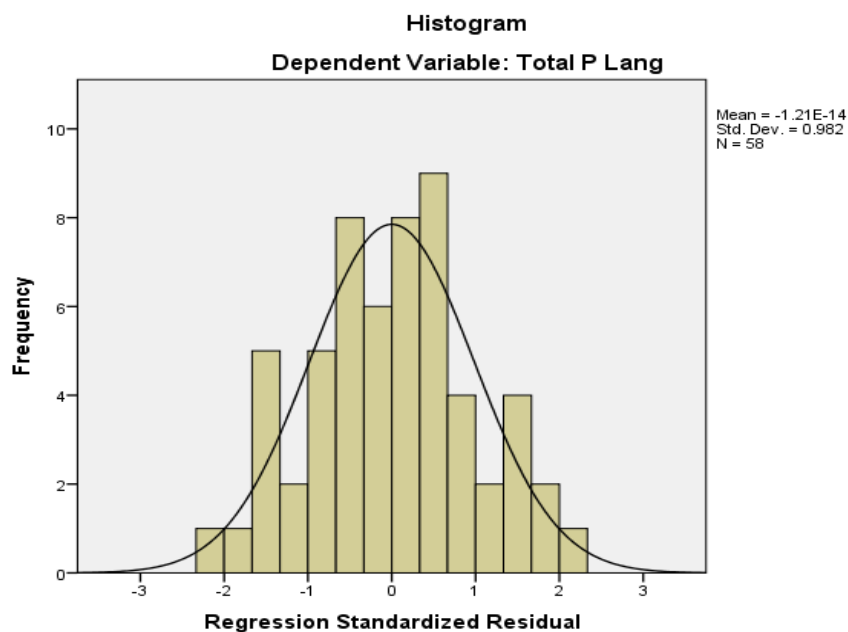
The purpose of the study was to discover the relationship between each individual predictive variable and the dependent variable. Using simultaneous multiple regressions, the following predictive variables were examined: Experience in District and Total Experience. Analysis was conducted to test the unique effects between the predictive variables and the dependent variable by assigning coefficients to each predictive variable. As displayed in Table 9, the beta weight and statistical significance were analyzed and examined. Based on the results of the beta weights neither of the two predictive variables showed significance: Experience in Total  $B = .394$  ( $p = .291$ ) and Experience in District  $B = -.266$  ( $p = .475$ ).

Table 9

*Language Arts Proficiency: Predictive Variables Used and Coefficients (n=58) of Predictive Variables*

Model	Unstandardized Coefficients		Standardized Coefficients		Sig.	95.0% Confidence Interval for B		Collinearity Statistics	
	B	Std. Error	Beta	t		Lower Bound	Upper Bound	Tolerance	VIF
1 (Constant)	90.221	1.159		77.826	.000	87.898	92.544		
Exp_Total	.158	.148	.394	1.066	.291	-.139	.455	.129	7.749
Exp_distric	-.098	.137	-.266	-.719	.475	-.372	.176	.129	7.749

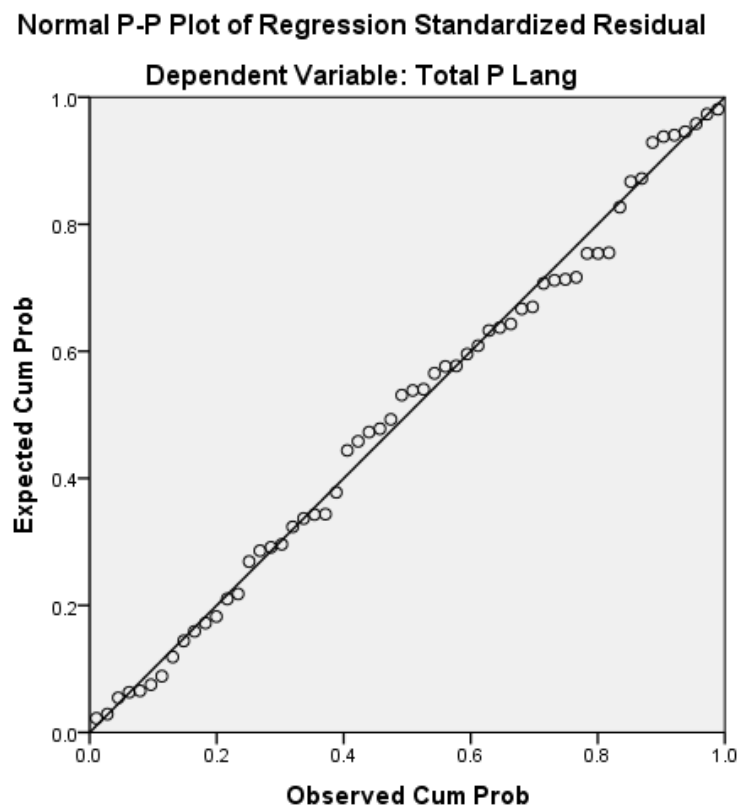
a. Dependent Variable: Total P Lang



*Figure 1. Histogram of Total P Lang.*

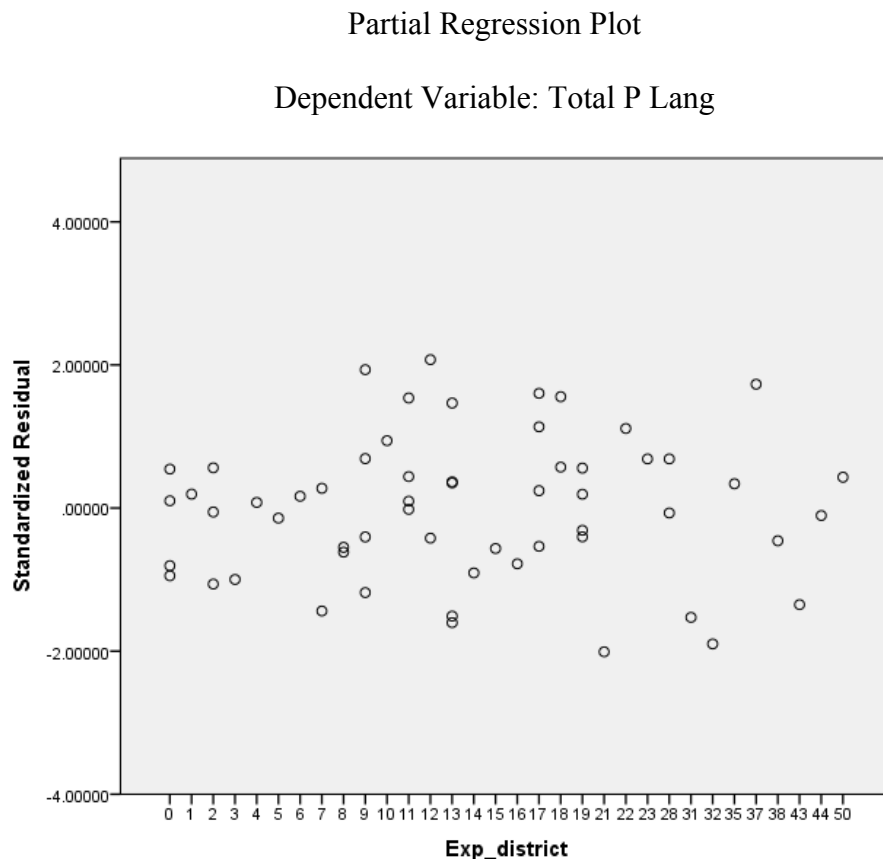
Figure 1 shows a histogram, a bar-type graph for quantitative data. It was developed from the dependent variable Total P Lang and the two predictive variables. The common boundaries between adjacent bars emphasize the continuity of the data, as

with continuous variables (Witte & Witte, 2007, p. 39). This graph shows that a dense concentration of the predictive variables has an impact on student achievement as proficiency increases. The highest bars on the graph have the greatest impact on student achievement: Experience in District (.475) and Experience in Total (.291). The intervals along the abscissa (x-axis, predictors) reflect the various class intervals relative to student achievement. The line graph shows a curvilinear relationship. The data can best be described with a curved line based on this graph.



*Figure 2. P-plot distribution of Observed Cum Prob.*

Figure 2 shows the cumulative number of 58 school districts in the DFG A-CD as the population. This scatterplot is misleading. The linear relationship shows that the more closely the predictive variables are, the stronger the relationship will be with student achievement.



*Figure 3. Partial regression plot for Experience as Principal in District.*

Figure 3 demonstrates that the predictive variable of experience as a principal in district ( $p = .475$ ) shows little to no relationship to student achievement. This dot cluster does not have a strong or weak relationship, and reflects little or no relationship based on the scatterplot for experience as a principal in the school district.

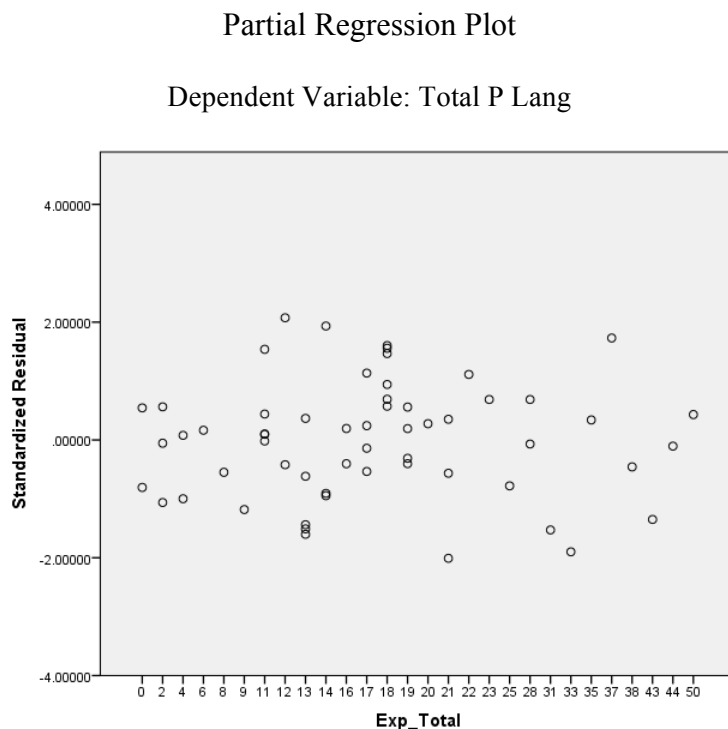
### Research Question 1

1. What is the relationship between New Jersey Principals' district tenure (i.e., length of time in a district school as a principal) and student academic achievement, as evidenced on the 2011-2012 11<sup>th</sup> Grade NJ HSPA?

Based on the beta weights, Principal Experience in District ( $B = -.266$ ,  $p = .475$ ) was not shown to significantly impact the outcome variable, student achievement. What is the relative impact of the multiple regression analysis of the predictive variable principal



experience in district on the dependent variable student achievement, as examined in Table 7? The model summary shows that the simultaneous multiple linear regression was conducted ( $df = 2, 55$ ,  $F = .863$ ,  $p = .475$ ). Examination of the regression coefficient reveals that a principal's experience in the district does not have a statistically significant impact on Language Arts student achievement ( $B = -.266$ ,  $t = -.719$ ,  $p = .475$ ).



*Figure 4. Partial regression plot for Total Experience.*

Figure 4 evaluates the predictive variable of total experience in education relative to student achievement, but shows little to no relationship ( $p = .291$ ). This dot cluster does not have a strong or weak relationship, so reflects little or no relationship based on the scatterplot for experience as a principal in the school district.

### Research Question 2

1. What is the relationship between New Jersey Principals' educational continuity (i.e., total number of years in education) and student academic achievement, as evidenced on the 2011-2012 11<sup>th</sup> Grade NJ HSPA?

Based on the beta weights, Principal Experience in District ( $B = -.394$ ,  $p = .291$ ) was not shown to significantly impact the outcome variable, student achievement. What is the relative impact of the multiple regression analysis of the predictive variable principal total experience on the dependent variable student achievement, as examined in Table 7? The model summary shows that the simultaneous multiple linear regression was conducted. Three percent ( $R^2 = .030$ ) of the variance in student achievement is explained by the predictive variable total experience in education. Examination of the regression coefficient reveals that a principal's experience in the district does not have a statistically significant impact on Language Arts student achievement ( $B = .394$ ,  $t = 1.066$ ,  $p = .291$ ).

Table 10 shows the mean averages for the dependent variable, student achievement, and the two predictive variables used in the simultaneous multiple regression analysis.

Table 10

*Language Arts Descriptive Statistics***Descriptive Statistics (N=58)**

	Mean	Std. Deviation	N
Total P Lang	91.512	4.3583	58
Exp_Total	17.71	10.861	58
Exp_district	15.36	11.798	58

**Model of Best Fit: Mathematics**

Table 11

*Mathematics Proficiency Collinearity: Pearson Correlation*

		Total P Math	Exp_Total	Exp_district
Pearson Correlation	Total P Math	1.000	.182	.153
	Exp_Total	.182	1.000	.931
	Exp_district	.153	.931	1.000
Sig. (1-tailed)	Total P Math	.	.098	.139
	Exp_Total	.098	.	.000
	Exp_district	.139	.000	.
N	Total P Math	52	52	52
	Exp_Total	52	52	52
	Exp_district	52	52	52

As displayed in Table 11 above, Pearson correlations were calculated between the two predictive variables. As each of the correlations exceeds the .80 threshold, the analysis shows that two variables may be closely related.

Table 12

*Revised Mathematics Proficiency Coefficients and Multicollinearity, Tolerance, and Variance Inflation Factor (VIF) Coefficients<sup>a</sup>*

Model	Unstandardized Coefficients		Standardized Coefficients		t	Sig.	95.0% Confidence Interval for B		Collinearity Statistics	
	B	Std. Error	Beta				Lower Bound	Upper Bound	Tolerance	VIF
1 (Constant)	73.572	1.983			37.094	.000	69.586	77.558		
Exp_Total	.192	.247	.298		.777	.441	-.305	.689	.134	7.454
Exp_district	-.073	.227	-.124		-.324	.748	-.530	.383	.134	7.454

a. Dependent Variable: Total P Math

Table 12 displays two other checks for multicollinearity of the predictive variables: the tolerance levels and the Variance Inflation Factor (VIF). After making revisions to the data the VIF scores are no longer above 10, the relative threshold level that highlights trouble with the data. Tests to see if the data met the assumption of collinearity indicated that multicollinearity is no longer a concern (Exp\_Total, Tolerance = .134, VIF = 7.454; Exp\_district, Tolerance = .134, VIF = 7.454).

The researcher chose to utilize the design method of multiple regressions for analyzing the data. By this analysis summary models were produced. None of the predictive variable are significant at the .05 level (New Jersey Principal total experience .441; Experience in the district .748), and none of the models showed significance levels of  $p < .05$ .

Table 13

*Revised Mathematics Proficiency Model Summary*

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.188 <sup>a</sup>	.035	-.004	7.135

a. Predictors: (Constant), Exp\_district, Exp\_Total

b. Dependent Variable: Total P Math

Table 13 shows the results of the predictive variables in the simultaneous multiple regression analysis. Negative five-tenths percent of the variance is explained by the predictor variables (Adjusted R Square  $-.004 \times 100 = -0.4$ ;  $99.96 + .04 = 100\%$ ). The predictive variables Experience as Principal in District and Experience Total are displayed in this model. The R Square in a multiple regression represents the explained variance that can be attributed to all the predictors in a progression. The R Squared thus gives explanatory power. In Table 13 the Model Summary shows an R Squared of .035 ( $.035 \times 100 = 3.5\%$ ), so 3.5% of the variance in the dependent variable (Total P Math, the percentage of students who scored "Proficient" or better on the 2011-2012 11<sup>th</sup> grade New Jersey High School Proficiency Assessment in Mathematics) was accounted for by the predictive variables in the model.

Table 14

*Revised Mathematics Proficiency ANOVA*

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	91.373	2	45.687	.897	.414 <sup>b</sup>
	Residual	2494.772	49	50.914		
	Total	2586.145	51			

a. Dependent Variable: Total P Math

b. Predictors: (Constant), Exp\_district, Exp\_Total

Table 14 shows the effects of the predictive variables Experience as Principal in District and Experience Total on student achievement. There was not a significant effect of amount of experience on student achievement at the  $p < .05$  level for the three categories [ $F(2, 49) = .897, p = 0.414$ ]. The F-test tested the hypothesis that all predictor variables under consideration have no explanatory power. Since the p-value (.414) is greater than 0.05, the hypothesis is accepted. Thus, the predictors have no explanatory power.

The purpose of the study was to discover the relationship between each individual predictive variable and the dependent variable. Using simultaneous multiple regressions, the following predictive variables were examined: Experience in District and Total Experience. Analysis was conducted to test the unique contribution of the predictive variables to the dependent variable, by assigning coefficients to each predictive variable. As displayed in Table 15, the beta weight and statistical significance were analyzed and examined. Based on the results of the beta weights neither of the two predictive variables showed significance: Experience in Total  $B = .298$  ( $p = .441$ ) and Experience in District  $B = -.124$  ( $p = .748$ ).

Table 15

*Revised Mathematics Proficiency and Predictive Variable Coefficients (n=52)*

Model	Unstandardized Coefficients		Standardized Coefficients		t	Sig.	95.0% Confidence Interval for B		Collinearity Statistics	
	B	Std. Error	Beta				Lower Bound	Upper Bound	Tolerance	VIF
1 (Constant)	73.572	1.983			37.094	.000	69.586	77.558		
Exp_Total	.192	.247	.298		.777	.441	-.305	.689	.134	7.454
Exp_district	-.073	.227	-.124		-.324	.748	-.530	.383	.134	7.454

a. Dependent Variable: Total P Math

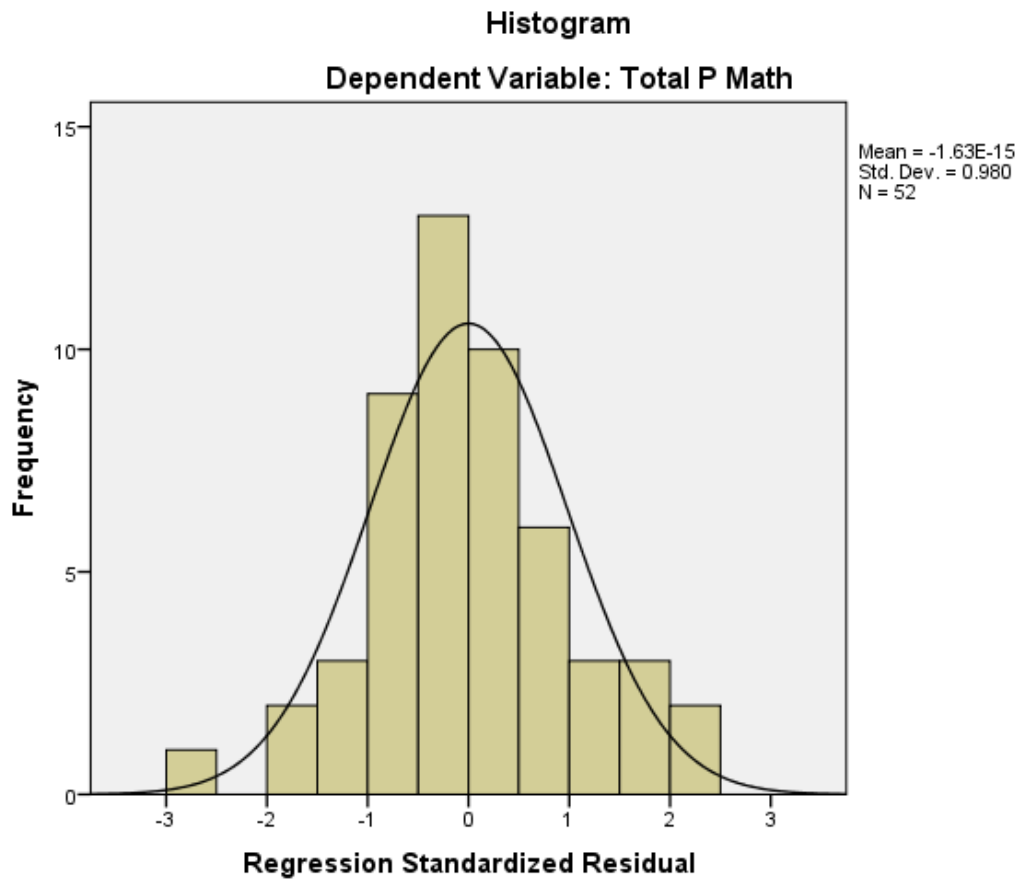
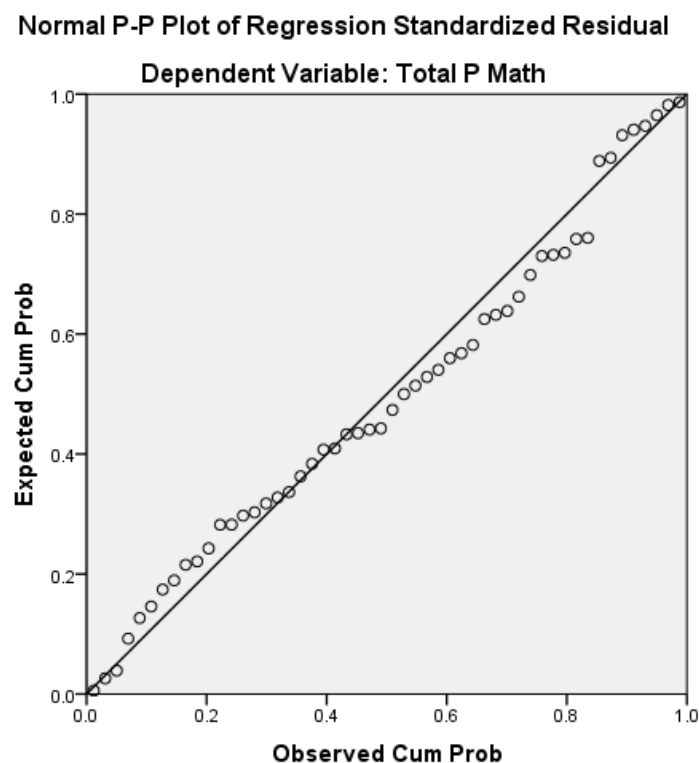
*Figure 4. Histogram for Total P Math.*

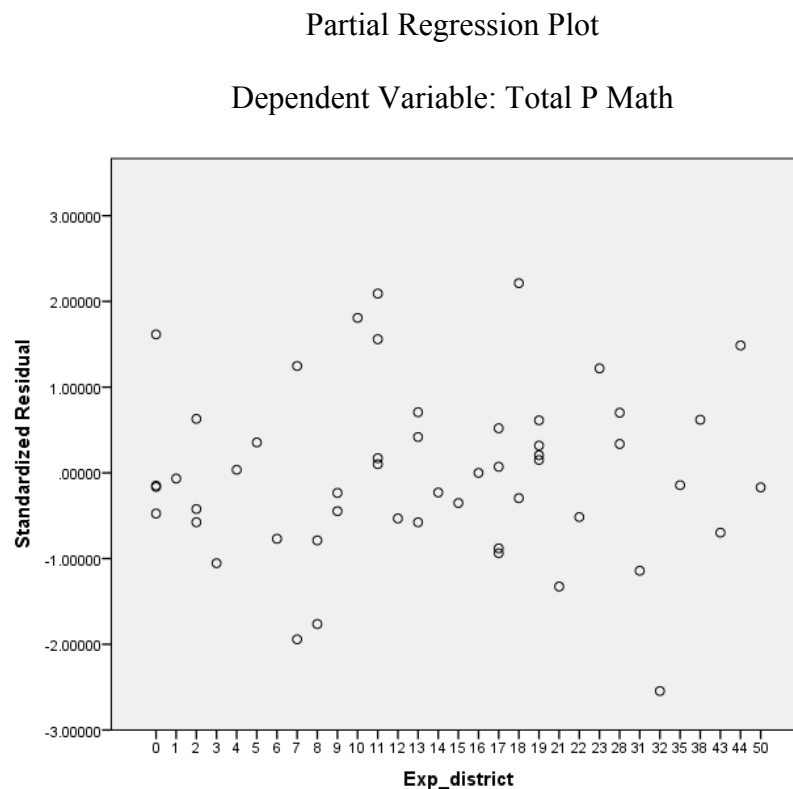
Figure 4 shows the histogram developed from the dependent variable Total P Math and the two predictive variables. The common boundaries between adjacent bars emphasize the continuity of the data, as with continuous variables (Witte & Witte, 2007, p. 39). This graph shows that a dense concentration of the predictive variables has an impact on student achievement as proficiency increases. The highest bars on the graph have the greatest impact on student achievement: Experience in District (.748) and Experience in Total (.441). The intervals along the abscissa (x-axis, predictors) reflect the various class intervals relative to student achievement. The line graph shows a curvilinear relationship. The data can best be described with a curved line based on this graph.



*Figure 5.* P-plot distribution Observed Cum Prob.



Figure 5 shows the cumulative number of 52 school districts in the DFG A-CD as the population. This scatterplot is misleading. The linear relationship shows that the closer the predictive variables are, the stronger the relationship will be with student achievement.



*Figure 6. Partial regression plot Experience as Principal in District*

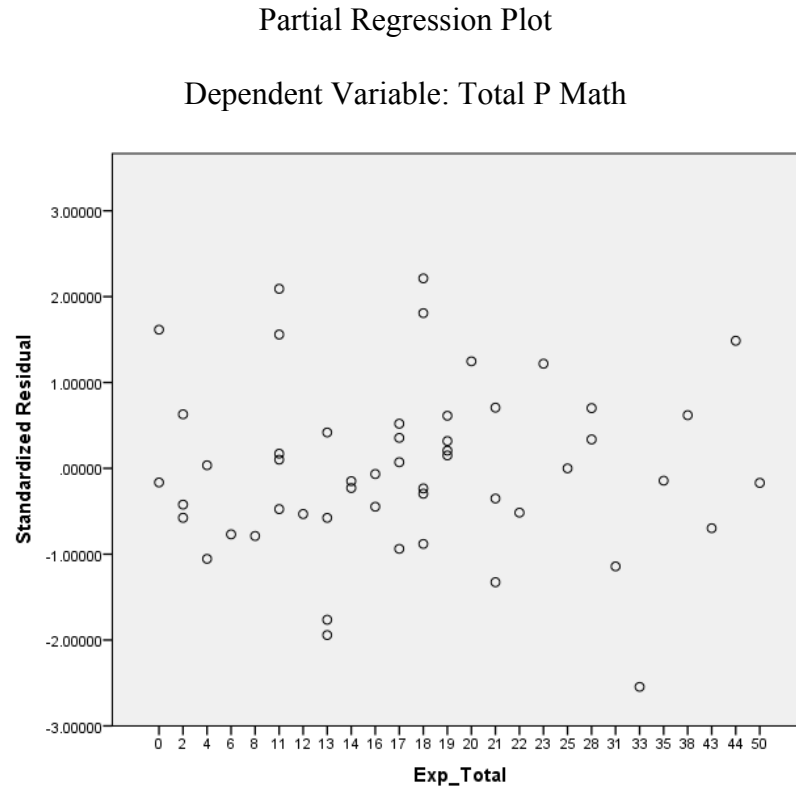
Figure 6 shows little or no relationship between the predictive variable of experience as a principal in district ( $p = .748$ ) and student achievement. This dot cluster does not have a strong or weak relationship, and reflects little or no relationship based on the scatterplot for experience as a principal in the school district.

### **Research Question 1**

What is the relationship between New Jersey Principals' district tenure (i.e., length of time in a district school as a principal) and student academic achievement, as evidenced on the 2011-2012 11<sup>th</sup> Grade NJ HSPA?

Based on the beta weights, Principal Experience in District ( $B = -.124$ ,  $p = .748$ ) was not shown to significantly impact the outcome variable, student achievement. What is the relative impact of the multiple regression analysis of the predictive variable principal experience in district on the dependent variable student achievement as examined in Table 15? The model summary shows that a simultaneous multiple linear regression was conducted ( $df = 2, 49$ ,  $F = .897$ ,  $p = 0.748$ ).

Examination of the regression coefficient reveals that a principal's experience in district does not have a statistically significant impact on mathematics student achievement ( $B = -.124$ ,  $t = -.324$ ,  $p = .748$ ).



*Figure 7.* Partial regression plot for Experience Total.

Figure 7 shows little to know relationship between the predictive variable of total experience in education ( $p = .441$ ) and student achievement. This dot cluster does not have a strong or weak relationship, and reflects little or no relationship based on the scatterplot for experience as a principal in the school district.

## Research Question 2

What is the relationship between New Jersey Principals' educational continuity (i.e., total number of years in education) and student academic achievement, as evidenced on the 2011-2012 11<sup>th</sup> Grade NJ HSPA?

Based on the beta weights, Principal Experience in District ( $B = .298$ ,  $p = .441$ ) was not shown to significantly impact the outcome variable, student achievement. What is the relative impact of the multiple regression analysis of the predictive variable principal total experience on the dependent variable student achievement as examined in Table 15? The model summary shows that a simultaneous multiple linear regression was conducted. 3% ( $R^2 = .035$ ) of the variance in student achievement is explained by the predictive variable total experience in education. Examination of the regression coefficient reveals that a principal's experience in the district does not have a statistically significant impact on mathematics student achievement ( $B = .298$ ,  $t = .777$ ,  $p = .441$ ).

Table 16 (Descriptive Statistics Model) shows the mean averages for the dependent variable, student achievement, and the two predictive variables used in the simultaneous multiple regression analysis.

Table 16

### *Mathematics Proficiency Descriptive Statistics*

#### **Descriptive Statistics (N=52)**

	Mean	Std. Deviation	N
Total P Math	75.86	7.121	52
Exp_Total	17.77	11.032	52
Exp_district	15.35	12.015	52

## Summary

This chapter presented an overview of the examination and evaluation of the study's data analysis procedures, histograms of the data, scatterplots, and answers to the research questions. Several models of data that were pertinent to the simultaneous multiple regression analysis showed that the predictive variables (experience in district, experience in New Jersey, and total experience) did not predict the percentage of students who scored "Proficient" or better on the 2011 – 2012 NJ HSPA, either in language arts or mathematics. This chapter did not show, however, how the predictive variables impacted the dependent variable. Beta weights were computed to show this contribution. The study's primary focus was to examine whether principals' length of tenure impacted student academic achievement. It proved to have weak relative impact, according to the beta weights ( $B = .532$ ,  $B = .419$ ). Regardless, the insights gained by this research will contribute to the available quantitative data regarding the influence of principals' tenure, longevity, and continuity. This study will hopefully provide insights to districts as to how they can best engage their principals for a longer period of time in an effort to increase student academic achievement.

"Chapter 5 will provide an interpretation of the data and the conclusions of the research study. The findings will be presented in a manner that extends the knowledge base established in the literature review. In addition, suggestions for policy, practice, and further research will be discussed." (Potts, 2011)

## **Chapter Five: Conclusions, Recommendations for Practice, and Recommendations for Policy**

### **Introduction**

Based on the findings of this study, this chapter examines the most essential principal variables associated with improving student achievement. The following research questions guided the study:

1. What is the relationship between New Jersey principals' district tenure (i.e., length of time in a district school as a principal) and student academic achievement, as evidenced on the 2011-2012 11<sup>th</sup> Grade NJ HSPA?
2. What is the relationship between New Jersey principals' longevity (i.e., years of experience as a principal) and student academic achievement, as evidenced on the 2011 – 2012 11<sup>th</sup> grade NJ HSPA?
3. What is the relationship between New Jersey principals' educational continuity (i.e., total number of years in education) and student academic achievement, as evidenced on the 2011-2012 11<sup>th</sup> Grade NJ HSPA?

This research was conducted to investigate if the relationship between principal tenure, longevity, and continuity at the district level impacts student achievement, as measured by the 2011-2012 New Jersey High School Proficiency Assessment (NJ HSPA). The variables most likely to impact student achievement were identified and utilized for this study. Its findings may provide opportunities for aspiring New Jersey principals and help them make the leap into school-based administrative positions with better knowledge of the factors impacting student achievement on the NJ HSPA. Furthermore, these findings may have significance in helping schools create strategic action plans that

will address areas of weakness identified within this research paper, assist in tailoring appropriate professional development plans based on district factor groups, aide new lawmakers in developing more rigorous standards for principals that will positively impact student achievement, and aid institutions of higher education in establishing top-notch administration and preparatory programs for aspiring principals (Potts, 2011). This chapter presents a summary of the study's variables, purpose, procedures, findings, and conclusions. It also offers recommendations for both practice and policy, and suggests paths for future research.

### **District, State, and Total Experience in Education**

#### **Conclusions**

The initial model of this study included a predictive variable, "Experience in Education in New Jersey", that demonstrated a strong model summary. Displaying explanatory power for student achievement on the 2011–2012 Grade 11 New Jersey High School Proficiency Assessment in Language Arts and Mathematics. According to the model study's data analysis, 13.1% of the variation in student achievement on the language arts portion of the NJ HSPA can be explained when principals remaining in the state of New Jersey are included in the model. For the math portion of the NJ HSPA, 14.9% of the variation can be explained when principals remaining in the state of New Jersey is included in the model. After a deeper analysis of the coefficients table, more specifically, the variation inflation factor (VIF) multicollinearity was found. The VIF was four times the recommended threshold in both Mathematics and Language Arts (49.230). The predictive variable "Experience in Education in New Jersey" was the least significant

of the three. Thus, this predictive variable was removed from the study, along with outliers and influential points.

The revised regression model included the predictive variables “Experience in the district” and “Total Experience in education” revealing a much weaker model summary. This displayed explanatory power for student achievement on the 2011–2012 Grade 11 New Jersey High School Proficiency Assessment in Language Arts and Mathematics. According to the revised model data analysis, 3.0% of the variation in student achievement on the language arts portion of the NJ HSPA can be explained when principals remaining in the state of New Jersey are removed from the model. For the math portion of the NJ HSPA, 3.5% of the variation can be explained when principals remaining in the state of New Jersey are removed from the model. The VIF in the revised model fell within the recommended threshold of 10 (7.454).

The results of the revised model may or may not be indicative of a relationship between principal tenure, longevity, and continuity and student achievement on the 2011 – 2012 Grade 11 NJ HSPA in Language Arts and Mathematics, due to the reduction in schools in the revised model. The dataset initially included 139 schools yet only 69 were utilized in the data analysis. Of the 139 schools within the A-CD district factor groups 70 of them did not make Adequate Yearly Progress (AYP) on the 2011 – 2012 NJ HSPA. This had a significant impact on the data. After finding multicollinearity in the initial analysis the model was revised. The number of schools was then reduced and the revised model evaluated only 58 schools for Language Arts and 52 schools for Mathematics. In future studies of this kind I recommend that AYP not be factored into the dataset due to the change in law. As of December 2015 the Every Student Success Act replaced No



Child Left Behind and no longer requires states to meet AYP. Though the research is limited, studies of this kind that have found significant explanatory power are more comprehensive and include a robust dataset. Louis and colleagues' CAREI study combined data from separate studies, both qualitative and quantitative. The data was collected from 9 states, 43 school districts, and 180 schools of various levels (2010). By increasing the dataset of this study in multiple states, with all predictive variables included, we may see a rise in explanatory power as well as a reduction in the VIF.

This study analyzes the impact on student achievement when a principal remains in a school for four or more years. There is little to no existing research, which focuses on a principal's continuity and longevity. Researchers have not analyzed the impact, principal time in the positive, has on student achievement. The existing studies that have found significant explanatory power focus on the impact of principal time in the negative. In 2009, the Institute for Education and Social Policy at New York University released a condition report focusing on principal turnover and academic achievement, using a mixed-methods approach and found that the percentage of students graduating with 2-3 different principals lead to a larger decrease in graduation rates and is statistically significant ( $\text{Beta} = -5.52$ ,  $p < 0.10$ ) (Weinstein, Jacobowitz, Ely, Landon, & Schwartz, 2009). Louis and colleagues' CAREI study found similar results when focusing on principal turnover and its impact on student achievement. The study explains that the total effects of principal turnover explain 24% of the variation in student achievement (2010). More studies of this kind are needed in order to make a definitive argument either way.

This study explains that Principals' time as it relates to retention was not significant in itself. The results will likely be different if studied in conjunction with principal behaviors. Waters and colleagues study "Balanced Leadership: What 30 years of research tells us about the effects of leadership on student achievement" explains, "the data from our meta-analysis demonstrate that there is, in fact, a substantial relationship between leadership and student achievement" (2003, pp. 3). An interesting finding in the Balanced Leadership study was the correlation between student achievement and improved abilities in all 21 responsibilities. Improving on 21 leadership responsibilities cannot be done with constant turnover. Principal leadership must be continuous in order for that to occur. The most significant leadership responsibilities such as intellectual stimulation, situational awareness, and input requires the principal to ensure that staff is constantly learning from the most current theories, that he/she is aware of the details, and involve teachers in the design and implementation of important decisions. Each of the leadership responsibilities mentioned require time in the principal position to be mastered. Principal longevity and continuity will likely lead to stronger delivery of leadership responsibilities thus increasing the explanatory power of the variance on student achievement.

The role of the Principal is critical to any discussion of the overall success of schools in New Jersey studies CAREI and Balance Leadership confirms this. The highest authority, final approver of staff hires, and lead evaluator of teachers, principal's leadership heavily influences the overall performance of his/her teachers, which in turn impacts student achievement. A principal with tenure and/or continuity in education is more likely to master many, if not all, of the leadership responsibilities that have

significant impact on student achievement, compared to a principal with little to no experience. As explained by the CAREI findings, “Principals newly assigned to schools who initially work within existing culture are more likely to avoid negative turnover effects.” The total years of experience in education a Principal has helps to reduce the learning curve that exists when entering a new state, school district, or school within his or her current district.

### **Recommendations for Practice**

Based on the findings of this study and a review of the literature, it is important that the Principal build a sustainable culture of achievements during their tenure in a school. Principals can ensure that this occurs by doing several things. First, Principals must distribute leadership within the school and monitor the impact of their decisions on overall school success, which increases the chances of improved student achievement. Louis et al. (2010) reported that taking a deliberate approach to the distribution of leadership, driven by a principal and district leaders committed to collaborative work, will help maintain student achievement despite frequent changes in leadership. Simply stated, this means that Principals are more likely to sustain student achievement in schools when school goals and teacher practice are strongly aligned, and they receive support in achieving those goals. For example, the Principal can foster a climate that ensures collaborative goal setting between the principal and teachers.

By involving relevant stakeholders, within the school, to join the goal setting process, the principal will be accessing a robust amount of educational experience that could be crucial in establishing and achieving goals that significantly impact student achievement. Experienced Principals understand the power of distributive leadership and

work closely with their teachers. By hiring principals with educational experience in districts and experience in education, schools will be better equipped to achieve their goals. Another practice to be considered is to promote from within. A Principal that has served in different capacities at a school has a perspective that a Principal from another state cannot have. A person currently working in the school has better knowledge of the culture and politics, and has played some part in the process to improve student achievement. A leader promoted from within also has more experience in the school, the district, and education overall.

### **Recommendations for Policy**

To attract and retain experienced educators as principals in New Jersey, districts must provide leaders with more autonomy. The power to choose which positions to keep or eliminate and/or select a curriculum better aligned to their student population's needs can be crucial to a principal's commitment to a school. The implementation of NCLB's standardized testing mandates, national curricular standards, and Achieve NJ restrict principals' abilities to make these choices. This forces principals to follow the script in hopes that what has been prescribed works for their student population. Environments of this kind cause anxiety and encourage principals to leave the district or state at a faster pace.

The state of New Jersey must also change the Last In First Out (LIFO) law. Only 9 other states have the LIFO law, and it is activated when districts must lay off teachers due to budget cuts. New Jersey has had to cut hundreds of millions of dollars from school districts over the past six years, which makes this a real concern. The LIFO law requires schools affected by budget cuts to start by firing teachers with the amount of experience.

Teacher performance is not considered, and neither is any other measure of quality. The law undermines principal leadership, reduces principal autonomy, and can impact student achievement tremendously. For example, say a tenured principal receives a budget cut that requires four math teachers to be cut out of a department of twelve. The weakest of the twelve teachers, based on evaluations, has been in the system for five years and has tenure. The strongest teacher has been in the system for four years and has tenure. The LIFO law would prevent the principal from eliminating the lowest performing teacher and force him/her to fire a high quality teacher. The lack of autonomy to make the necessary decisions to improve student achievement has a negative impact on school culture and principal morale. By changing the LIFO law New Jersey can increase the number of principals remaining in school district in New Jersey and reduce the risk of them going to non-LIFO law states with increased levels of autonomy.

### **Summary of Purpose**

As we transition from NCLB to the Every Student Succeeds Act (ESSA) in our American education system, the role of the principal is becoming more significant. Principals are faced with increasing accountability and greater demands from superintendents to produce results at the highest levels of student achievement. Principals at one time were required to be more of a supervisor than anything else. These early principals represented “an administrative convenience rather than positions of recognized leadership” (Spain, Drummond & Goodland, 1956, p. 24). But 21<sup>st</sup>-century principals are no longer just responsible for the day-to-day operations of the school: ultimately they are responsible for academic achievement levels as defined by ESSA. While ESSA eliminated the 100% proficiency requirement and adequate yearly progress (AYP)

introduced by NCLB (U.S. Department of Education, 2015), New Jersey continues to “employ student growth percentiles (SGP) to describe school wide student achievement on Partnership for Assessment of Readiness for College and Careers (PARCC) test,” which is a graduation requirement (NJDOE, 2016). The results of these assessments are tied to principal evaluations, thus increasing the accountability measures for the performance of a principal. “Instead of using the test ‘accountability system’ as a diagnostic tool to assist educators in differentiating and driving academic instruction, tests became the primary indicator of a school’s performance status” (Rogers, 2006).

Today’s principals are not only accountable for student success but also tasked with promoting social justice and equity of educational opportunities for all students, by creating a collaborative culture of adult and student learners (Grogan & Andrews, 2002; Lashway, 2002). This increased pressure has had a negative impact on principal longevity: in recent years there been an increase in principal turnover, and the associated difficulties with finding qualified replacements in an urgent issue in school districts across the country (Hargreaves, 2005; Norton, 2003).

The No Child Left Behind Act ushered in a level of accountability that had never been seen before. Four principles steer its education reform policy: stronger accountability for results, increase flexibility and local control, expanded options for parents, and an emphasis on teaching methods that have been proven to work (NJDOE, 2015). New Jersey’s recent TEACHNJ law likewise “mandates statewide implementation of stronger, more rigorous evaluation systems. New evaluation rubrics must include four annual rating categories: Highly Effective, Effective, Partially Effective, and Ineffective. These rubrics must be annually submitted to the Commissioner of Education for review

and approval, and are not subject to collective negotiations. Under AchieveNJ, principals' will be held accountable for school wide Student Growth Percentile (SGP) score data if enough tested grades and subjects are taught in their school. These scores represent the median of all qualifying SGP scores in a principal's school. For principals who lead schools with two or more tested grades or subjects, 30 percent of their evaluation will be based on school wide SGP data. For principals with only one SGP grade or subject, 20 percent of their evaluation will be based on school wide SGP data" (NJDOE, 2012). This is why, in my opinion, the role of the principal as it relates to student achievement is critical: standardized testing overshadows other important indicators of success, thus pushing the public's focus onto SGP. Principal turnover will continue to increase under these conditions.

### **Summary of Procedures**

This study used a non-experimental, explanatory, cross sectional research design, and simultaneous multiple regression analysis was used to measure the relationship of the predictive variables (principal experience in district, principal experience in New Jersey, and principal total experience) to the dependent variable (student achievement on the 2011-2012 Grade 11 New Jersey High School Proficiency Assessment. "Non-experimental research is frequently an important and appropriate mode of research in education" (Johnson, 2001, p. 3) due largely to the inability to perform randomized experiments and quasi-experiments.

In order to determine which district and school variables had a statistically significant relationship to student achievement, the researcher used a simultaneous multiple regression models. This strategy is used when the researcher has no logical or

theoretical way to structure the data. It is typically used to explore and maximize prediction (Predhazur, 1997). Scatter diagrams of residuals and normal probability plots of residuals were conducted to test assumptions (Potts, 2011).

This data was acquired, compiled, and analyzed using Data Universe and the New Jersey School Report Card data for the 2011–2012 school year. The 2011-2012 New Jersey High School Proficiency Assessment (NJHSPA) for grade 11 has a cutoff score of 200 for proficiency. In the data analysis of these scores, the researcher looked at schools in district factor groups A–CD that had met AYP on the 2011-2012 NJHSPA. If a district did not make AYP then the school was in need of improvement, since the students in that district failed to increase their level of proficiency to an acceptable level as measured by the New Jersey Department of Education.

The study's three research questions were addressed by conducting a descriptive correlational analysis to discover if the predictor variables significantly contributed to the independent variable. This research design set the level of significance at  $p < 0.5$ , as that is the customary level used in research when working on significance. To check the statistical significance and relative importance of each predictive variable, the researcher examined the unstandardized coefficient beta weights and the standardized beta weights of each predictive variable. In addition, an R square was used to examine the relationships between the various predictive variables and the dependent variable.



### **Recommendations for Future Research**

The following recommendations for further research can be made based on the present study's findings and limitations.

1. This study was limited to school districts that fell in the categorical District Factor Grouping (DFG) of A-CD, based on the researcher's interest. Perhaps future research could examine all of the 599 school districts in New Jersey to see if principal tenure, longevity, and continuity have significant impacts on student achievement regardless of socioeconomic status, as opposed to just considering the 128 districts in the A-CD schools.
2. This study was limited to principal tenure, longevity, and continuity, based on the researcher's interest, and did not include other recorded data existing on school report cards. Perhaps future research could examine additional variables such as total student population, eligibility for free lunch, eligibility for reduced lunch, attendance, student mobility rate, and student dropout rates to see if any of them have significant impacts on student achievement.
3. Future research should include a mixed method study of the impact that the length of a principal's tenure, longevity, and continuity have on a school district in terms of student achievement. A mixed study should generate significant patterns over a period of time, as well as increase the dataset utilized to determine significance. The inclusion of high-quality qualitative data will add value to the model and provide a deeper, more complex response to the research questions in this study.
4. The leadership responsibilities identified by Marzano, Waters, and McNulty (2009) as influencing student achievement should be explored further. Their study

recommended that effective principals focus their efforts on creating goal-oriented schools which include the following: collaborative goal setting, non-negotiable goals for achievement and instruction, superintendent alignment and support of goals, continually keeping attention on established goals for achievement and instruction, correlating principal tenure positively with student achievement, and defining administrative school-level autonomy while increasing student achievement.

5. Further research should examine the impact of principal tenure, longevity, and continuity on the 2014–2015 high school New Jersey Partnership for Assessment of Readiness for College and Career (PARCC), for both mathematics and language arts. As in the present research, the examination should use the same 2011-2012 data. It would be interesting to see if principal tenure has a more significant impact on an assessment that is standardized nationally, rather than statewide. A comparison between the results of such a study with those of the present study could generate results that would be useful to school districts throughout America.
6. It is recommended that future research look at principal behaviors and attitudes that may impact student achievement on the New Jersey High School Proficiency Assessment. One such study could focus on the day-to-day operations of principals. This study could be conducted over the course of a year and could add to this study's findings.
7. Finally, it would be of great interest to disaggregate the collected New Jersey School Report Card and Data Universe data, to compare how different predictive

variables could influence student academic achievement on the 2011-2012 New Jersey High School Proficiency Assessment.

### **Conclusion**

The focus on instruction has always been at the forefront of a principal's role, even as it has evolved over the past 200 years. The principal of the 21<sup>st</sup> century is measured by standards of accountability that have never been seen before in history, due to the NCLB requirement that 100% of all students have to make Adequate Yearly Progress (AYP) and be proficient or better by 2014. Though the introduction of new laws such as ESSA eliminated the AYP requirement, the pressure on the principal position remains and has increased in the state of New Jersey with the introduction of Student Growth Percentiles. The past several decades have seen an increase in principal development and accountability in order to improve student achievement (West & Peterson, 2003.) With the increase pressures of accountability, the principal has become more of a jack-of-all-trades manager than an instructional leader.

Based on the literature pertaining to principals in American education, little work has been done to examine the relationship between principals and student achievement. To fill this gap, the researcher conducted a non-experimental, explanatory, cross-sectional design, using a simultaneous multiple regression analysis to measure the relationship of the three predictive variables (educational experience in New Jersey, total experience in education, and principal experience in district) to the dependent variable (student achievement). By examining the role that a principal's tenure, longevity, and continuity has on student academic achievement, as evidenced by the 2011-2012 grade 11 New Jersey High School Proficiency Assessment for students in the DFG of A-CD,

greater strides can be made in making sure that every student achieves a status of proficient or better on state standardized tests.

Although a great deal of research has been conducted on the impact of the classroom teacher and the building administrator on student academic achievement that has not been the case with principal longevity. Most previous studies have focused on the stress and changes related to the position of principal, teacher effectiveness as it relates to the principal, and perceptions of the expected characteristics of the principal. To this point, the research examining the influence the principal has on student academic achievement has mainly related to the principal's ability to develop and embody a plethora of leadership competencies (Marzano, Waters, & McNulty, 2005). The present study sought to fill that gap, and to examine the relationship between student achievement and the length of tenure, longevity, and continuity of a principal.

The results of this quantitative study confirmed that the three predictive variables used to produce the model summary did not account for a significant percentage of the variance in the dependent variable, the percentage of students who scored "Proficient" or better on the 2011-2012 Grade 11 New Jersey High School Proficiency Assessment, which may be due to the small dataset evaluated in the revised model of the study. While this model accounted for less than 10% of the variance, meaning that over 90% of the variance of the dependent variable is attributed to other factors, this study does reveal that the principal plays a part in student achievement, specifically in terms of his or her total years of experience in education. As individual student achievement continues to be emphasized over the next 4–8 years, studies of this kind will become more important. Despite the low variance explained by the factors examined here, the results are

significant because the research that examines the impact of the principal and district level leadership on student achievement is severely lacking. It is important to remember that as the principal's role changes and evolves, his or her tenure, longevity, and continuity will impact his or her students' overall academic achievement.

## References

- Allison, P. (2012). *When can you safely ignore multicollinearity?*. Available at <http://statisticalhorizons.com/multicollinearity>
- Anderson, L. W., & Van Dyke, L. A. (1963). *Secondary school administration*. Boston: Houghton Mifflin Co.
- Benben, J. S. (1966). The principalship: its changing role. In M. C. Nolte (Ed.), *An introduction to school administration: selected readings* (pp 01-07). New York: The MacMillan Co.
- Blumberg A., & Blumberg, P. (2004). Motives and powers of school board members. *Educational Administration Quarterly*, 40(5), 704–741.
- Boggs, J. (1920). School board regulations concerning the elementary school. *Principal Elementary School Journal*, 73C–74.
- Branch G., Hanushek, E., & Rivkin, S. (2013). School Leaders Matter. *Journal* 13(1), 01–08.
- Brown, J. F. (1915). *The American high school*. New York: The MacMillan Co.
- Byrne, D., Hines, S. A., & McCleary, L. E (1979). *The senior high school principalship*. Reston, Virginia: National Association for Secondary School Principals.
- Cudeiro, A. (2005). Leading Student Achievement. *School Administrator*, 62(11), 16–19.
- Data Universe. (2009). *Data universe*. Available at <http://php.app.com/edstaff/details2.php?recordID=125590>
- Deal, T. E. (1993). The culture of schools. In M. Sashkin & H. J. Walberg (Eds.), *Educational leadership and school culture*. Berkeley, CA: McCutchan Publishing.

- Douglass, R. (1963). *Modern administration of secondary schools: organization and administration of junior and senior high schools*. Boston: Ginn and Co.
- Ensign, F. C. (1923). Evolution of the high school principalship. *The School Review*, 179–190.
- Faber, C. F., & Shearron, G. F. (1970). *Elementary school administration: theory and practice*. New York: Holt, Rinehart, & Winston, Inc.
- Field, A. (2009). *Discovering statistics using SPSS (3<sup>rd</sup> ed.)*. London: SAGE Publications Ltd.
- Fullan, M. (2003). *The moral imperative of school leadership*. Thousand Oaks, CA: Corwin.
- Gelbrich, J. (1999). *The second half of the 20th century: World War II and beyond*. Available at <http://oregonstate.edu/instruct/ed416/ae8.html>
- Gross, N. & Herriott, R. E. (1965). New York: John Wiley & Sons, Inc.
- Howell, B. (1981). Profile of the principalship. *Educational Leadership*, 333–336.
- Louis, Leithword, Wahlstorm, & Anderson (2010). *Learning from leadership project: investigating the links to improve student learning*. University of Minnesota CAREI.
- Marzano, R. J., Waters, T., & McNulty, B. A. (2003). *Balanced Leadership: What 30 years of research tells us about the effect of leadership on student achievement*. Retrieved from <https://www.mcrel.org/wp-content/uploads/2016/06/Balanced-Leadership%C2%AE-What-30-Years-of-Research-Tells-Us-about-the-Effect-of-Leadership-on-Student-Achievement.pdf>

- Marzano, R. J., Waters, T., & McNulty, B. A. (2005). *School leadership that works: From research to results*. Alexandria, VA: Association for Supervision And Curriculum Development (ASCD).
- New Jersey Department of Education (2009). *NCLB state report, 2009*. New Jersey State Department of Education.
- New Jersey Department of Education (2013). *AchieveNJ for teachers*. Available at [http://www.state.nj.us/education/genfo/faq/faq\\_eval.shtml#\\_AchieveNJ\\_for\\_Teachers\\_1](http://www.state.nj.us/education/genfo/faq/faq_eval.shtml#_AchieveNJ_for_Teachers_1)
- New Jersey Department of Education (2016). *NJ School Performance reports 2016*. Retrieved from <http://www.nj.gov/education/pr/1415/NJSchoolPerformanceInterpretiveGuide.pdf>
- New Jersey Department of Education (2016). *NJ school turnaround 2016*. Retrieved from <http://www.state.nj.us/education/code/current/title6a/chap33.pdf>
- New Jersey Department of Education (2016). *Principal and VP/AP Evaluation (2016)*. Retrieved from <http://www.state.nj.us/education/AchieveNJ/principal/>
- New Jersey Department of Education (2016) *Student Growth Percentiles (SGPs) (2016)*. Retrieved from <http://www.state.nj.us/education/AchieveNJ/teacher/percentile.shtml>
- Partnership for Assessment of Readiness for College and Careers (2017). *PARCC, 2016*. Available at <http://www.parcconline.org/about>
- Patterson, D., & Rolheiser, C. (2004). Creating a culture of change: Ten strategies for developing an ethic of teamwork. *Journal of Staff Development* (Web Exclusive), 25(Spring), 1–4.



- Pellicer, L., Allen, C., Tonnsen, S., & Surratt, T. (1981). *the evolution and training of school principals*. Washington, DC: Fund for the Improvement of Postsecondary Education (ED).
- Pierce, P. R. (1935). *The origin and development of the public school principalship*. Chicago, Illinois: University of Chicago.
- Podsakoff, P., MacKenzie, S., Moorman, R., & Fetter, R. (1990). Transformational leader behaviors and their effects on followers' trust in leader satisfaction and organizational citizenship behaviors. *Leadership Quarterly*, 1(2), 107–142.
- Potts, T. (2011). *Superintendent influence over student achievement*.
- Rogers, T., Terranova, M., & Volp, F. (2006). *Snapshot of the superintendency VI: A study of school superintendents in New York State*. Albany, NY: New York State Council of School Superintendents.
- Sarason, S. (1982). *The culture of the school and the problem of change*. Boston, MA: Allyn & Bacon.
- Spain, C. R., Drummond, H. D., & Goodlad, J (1956). *Educational leadership and the elementary school principal*. New York: Rinehart and Holt.
- Tooms, A., Barnett, B., & Shoho, A. (2010). *The challenges for new principals in the twenty-first century: Developing leadership capabilities through professional support*. Information Age Pub.
- United States Department of Education (2010). *School improvement grant*. Available at <http://www2.ed.gov/programs/sif/summary/njapp.pdf>
- United States Department of Education (2015). *ESSA*. Available at <http://www2.ed.gov/documents/essa-act-of-1965.pdf>

- Weinstein, M., Jacobowitz, R., Ely, T., Landon, K., & Schwartz, A.E. (2009). New Schools, New Leaders: A Study of Principal Turnover and Academic Achievement at New High Schools in New York City. Institute for Education and Social Policy, New York University, New York, NY. Retrieved from <http://steinhardt.nyu.edu/scmsAdmin/uploads/005/018/New%20Schools%20New%20Leaders.pdf>
- West, M. & Peterson, P. (2003). *No Child Left Behind?: The Politics and Practice of School Accountability*. Washington, D.C.: Brookings Institution Press.